Kansas Medical Journal.

PUBLISHED MONTHLY

VOL. II. TOPEKA, KANSAS, AUGUST, 1890. NO. 8.

Senn's Hydrogen Gas Test.

DIAGNOSIS AND TREATMENT OF INJURIES TO THE HOLLOW VISCERA OF THE ABDOMINAL CAVITY—SENN'S "INFALLIBLE HYDROGEN GAS TEST" AS A DIAGNOSTIC AGENT.

Read before the Kansas Medical Society, at Salina, May 13, 1890.

BY A. H. CORDIER, M. D., M'PHERSON, KAS.

It goes without saying that the age in which we live is one of immense progress.

In which direction we look in the scientific field, the evidences of an intelligent and untiring labor are presented.

Contrast the status of scientific knowledge to-day with that of half a century ago and the immense gain in beneficent information and in useful facts is made apparent.

In no department is this gain more marked than in the field of abdominal surgery.

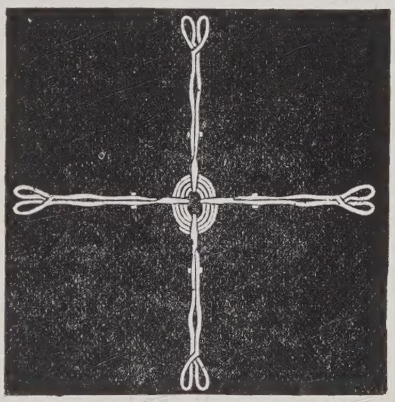
The peritoneum is no longer the "sacred sac k;" especially is this true in the hands of the surgeon who knows what the term *surgical cleanliness* means.

I shall not in this paper lay claims to priority or originality in the technique of diagnosis or treatment but shall merely map out in as brief a manner as possible, the method of using the hydrogen gas test for the detection of perforations of the intestinal canal and the manner of treating gunshot, stab, and other injuries of the hollow viscera of the abdominal cavity.

I offer as an apology in advance for taking up so much of your time, that Senn's "Infallible hydrogen gas test" has never been presented by experimental work before this, the Kansas State Medical Society, and also from its importance from a diagnostic and medico-legal stand point.

This subject although gone over one would think thoroughly, yet many facts remain undiscovered. My article would be more incomplete were I not to mention the methods of treating these injuries as devised by Senn, of Milwaukee; Davis, of Birmingham; Abbe, of Brooklyn; Brokaw, of St. Louis, and McMurtry of Louisville.

Without entering into the anatomy of the ntestines, I will preface this part ot my article by the statement, that the permeability of the



NO. 1—*Method of holding catgut string during the weaving of mat.*

ileo-cæcal valve to gases and air has been established by Senn beyond a question ot doubt, as I hope (with your kind indulgence) to demonstrate to you to-day.

Dr. Senn in his admirable paper read before the American Medical Association in Cincinnati, two years ago, said: "While the existence of serious intra-abdominal hemorrhage can usually be readily recognized by well marked physical signs and a complexus of symptoms which point to sudden diminution of intra-arterial pressure, and thus furnish one of the positive indications for treatment

by laparotomy, the well known fact remains that a visceral injury of the stomach or intestine seldom give rise to symptoms upon which the surgeon could rely in making a positive diagnosis of a perforation of the gut."

Having established the fact that a perforation of the gut exists by Senn's "Infallible hydrogen gas test," and that too, without injury to the patient by the use of this diagnostic agent; how are we to treat the injury?

The day has passed when any one should allow prejudice to bias his judgment in reference to any surgical procedure.

The presence of peritonitis is no longer considered as a contra-indication to operations, while the open treatment is no longer readily adhered to as was once the case in ovariotomy and kindred operations. Rapidly is the opinion gaining a footing that perityphlitis is a condition requiring early surgical interference in the majority of instances.

It behooves every physician doing any surgery at all, to have for his patient's sake and his own reputation certain clean cut ideas distinctly formulated as to these cases, so that an emergency shall not find him unprepared for the operative treatment of these cases so often necessary in order to save life.

To Dr. Senn, more than any one surgeon belongs the credit for the rapid advances made in intestinal surgery during the last few years. His decalcified bone plates and the modifications as devised by Dr. Davis of Birmingham, Ala., Brokaw of St. Louis, Abbe of Brooklyn, and the manner of using them has been the means of simplifying the technique of intestinal anastomosis, thus shortening the period of operation and diminishing the mortality thereby.

The results of the operation of interectomy and anastomsis with strict attention to cleanliness (by cleanliness I mean asepsis and antisepsis) and if carefully done will depend much more upon the disease for which it was undertaken than upon the operation itself.

I show you samples of mats and catgut plates as devised by Dr. Davis also the segmented rings of Dr. Brokaw. These plates and rings have proven highly satisfactory in performing all the anastomotic operations. Dr. Brokaw says in his paper on segmented rubber rings in intestinal anastomosis, "all that is required is some white ribbed rubber tubing from one-sixteenth to one-eighth inch in diameter, (i. e. lumen) a section three or four inches in length (according to aperture desired is cut into four equal parts, and heavy strands of catgut are passed through the lumen of these pieces of tubing. The ends are tied sufficiently tight to bring the ends of all the segments closely together thus forming an oval ring. The knots are tucked snugly into the lumen of the tubing.

No. 11.—*Approximation catgut mat.*

To this ring are attached four apposition threads, each being twelve to fourteen inches in length; the threads are tied to the catgut strands which hold the section of tubing together in this manner. It is now only necessary to attach the needles to the apposition threads and the rings are ready for use." In Dr. Brokaw's experiments segments of the rings were passed as early as the fifth day. Claim is made for the superiority of the segmented rings on the ground of simplicity of construction, easily obtained and readily made (if necessary) while the anæsthetic is being administered to the patient.

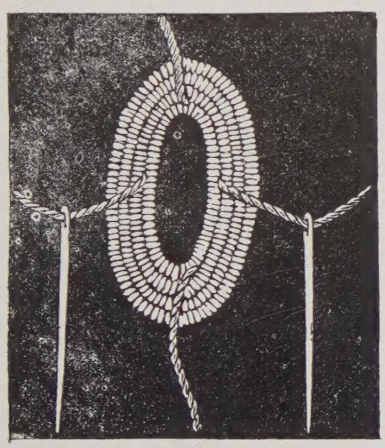
I show you Dr. Davis' catgut mats. They are made by taking one foot of the "D" string of a violin (to make a mat with opening six-eighths by one-third inch,) place in hot water for two minutes until it thoroughly untwists itself, wind the same upon itself so that the fourth layer completes the one foot; this frame or ring is then firmly clasped by four pairs of forceps one at each end and side, at same time pulling the ring or frame into an oblong shape—(see figure 1.) The weaving is then begun by means of a needle armed with a small catgut thread, taking care to weave the sides first in order to fix the oblong shape. The suture is carried alternately over and under each rib making the stitches as close together as possible, continuing this around the entire ring until the mat is completed. The coaptation sutures of silk

are fixed by simply passing a needle and thread between the ribs and so returned as to loop two or three of the small catgut sutures used in weaving the ribs together.—(Dr. Davis in *Times and Register*.) (See figure II and III.)

Before taking up the manner of applying these devices, I wish to call your attention to sutures of the intestines.

The only available form of sutures for the intestine and stomach are those which bring the peritoneal surfaces together, for only in this way can union be obtained quickly enough to prevent leakage of the contents, The Lembert stitch fulfills this requirement better than any other whether applied as a continuous or as an interrupted suture.

The stitch is applied as follows: Have a fine straight or moderately curved needle threaded with very fine catgut or silk thread, enter the needle about three-sixteenths of an inch from margin of wound, pick up the serous and muscular coats only, leaving the mucous membrane untouched and bring the



No. III.—*Approximating catgut mat with threads attached.*

needle out at about two-thirds the distance from the point of entrance and the edge of the cut surface. The needle is made to pick up the opposite surface in the same manner, except that the point of entrance is nearest the cut surface. When the sutures are tightened the two serous surfaces are brought in close contact by a process of inverting. You may if you desire to strengthen the first row, apply a second which will invert more of the peritoneum and give additional security. The interrupted silk suture has the first place in the hands of most surgeons; it is smaller and stronger in proportion to size as compared to catgut, can be easily obtained and sterilized by boiling a short time, becomes encapsuled, in a short time in serous exudation and remains harmless. The Czerney suture is made by passing the needle only through the mucous membrane and sub-mucous structure, tied and cut short. The Lembert is then used to bring the serous surfaces together. The great desideratum in the use of intestinal sutures is to obtain the most complete and secure apposition of the serous surfaces with the least reduction in the caliber of the gut.

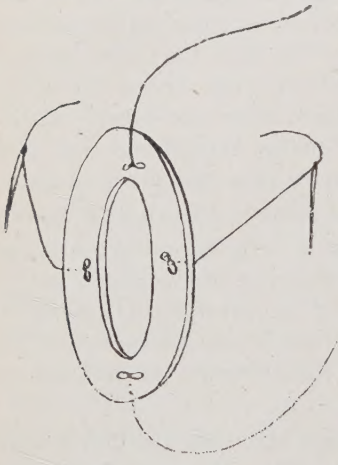
The objection to the sutures traversing all the intestinal coats, is that escape of contents may occur through the puncture. It is also unsafe in most instances to use the continuous suture owing to the fact that the cutting through of one stitch may loosen the whole line of sutures and allow the escape of the bowel's contents. The continuous will also pucker the gut more than the interrupted.

Now for the practical application of Senn's hydrogen gas test in forming a diagnosis, and the operation of suturing the wounded gut, or the performance of an anastomotic operation after a resection, where the character of the injury demands for its repair the division of the bowel:

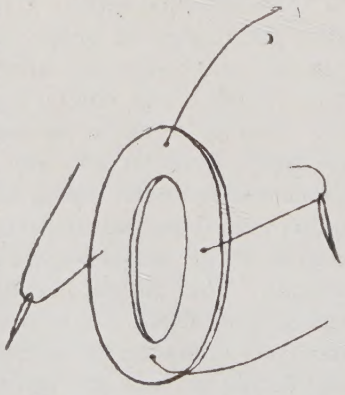
A man receives a stab or a gunshot wound of the abdominal walls. It is plain to be seen that the dagger or bullet has gone through the skin and how much farther the eye cannot tell. Patient was able to walk into your office. You try to probe the wound to estimate its depth, direction, etc., etc., but you find the probe will not enter owing to the fact that the bullet rebounded, was deflected from its direct course or the muscles contract and close the wound. Your patient may or may not be suffering from shock. You are in the dark as to the *exact* character or extent of his injuries, and decide to wait for twenty-four hours or longer to *see* if *septic peritonitis* will not develop and aid you in saying that the intestinal canal was certainly injured, and you now (but I am afraid too late, but try it anyway,) decide to operate and repair the injury which should have been done as soon as possible after the receipt of the injury. You have another case

presenting the same train of symptoms, as number one; for the first day, you decide to operate. The operation is performed by opening the abdominal cavity but you fail to find a perforation, either none exists or it is too small to be discovered. If the former, and if care has been exercised in doing the laparotomy, you have, in most instances, done your patient very little injury; but if the latter your patient will die sure.

I show you the apparatus I have used for generating the gas in my experimental work; consisting of a Mellville bottle containing chips of pure zinc, to which is added diluted sulphuric acid (1 of acid to 10 or 12 parts water;) the gas is soon generated and is conducted to a rubber balloon by a rubber tube the same with a rectal tip of an ordinary syringe and a stop-cock as you see here fastened into the balloon is all that is necessary to use in inflating the bowel.



"In a rubber balloon holding five gallon of gas with a stop-cock the lumen of which being the size of a knitting needle, a pressure of two hundred pounds is necessary to register three pounds pressure as measured by the manometer."



No. IV.—*Davis' approximation plates with apposition threads attached.*

A pressure of one-half to one pound and a half is all that is necessary to force the gas through the entire alimentary canal of the human being, and even much less than that during anæsthesia. Everything should be prepared for a laparotomy before the inflation is begun. The patient should be thoroughly etherized to overcome all resistance of the abdominal muscles.

Introduce the gas slowly. The passage of the gas from the colon to the ileum is marked by a gurgling sound in that locality and a diminution of the pressure. If the gas is escaping from the bowel into the peritoneal cavity the pressure is diminished, the liver dullness will soon begin to disappear, the whole abdominal walls, if made flaccid by the anæsthetic, will soon be distended uniformly. If the pressure remains high and the distention uneven as marked by its following the course of the colon then the small intestine gradually extending to the epigastric region as indicated by distention of the stomach, and the liver dullness is displaced upwards, it is probable that the gas is following the course of the uninjured bowel, and the diagnosis is made positive if the gas fails to escape through the abdominal wound. If escaping from external wound the gas will burn with a blue flame and a faint report on igniting it with a match. If a laparotomy is to be performed the using of the gas if a perforation exists will expedite the first steps in the operation by distending the abdominal walls thus carrying it away from the intestines, so that you are not likely to wound a gut in making your abdominal incision, though done hurriedly.

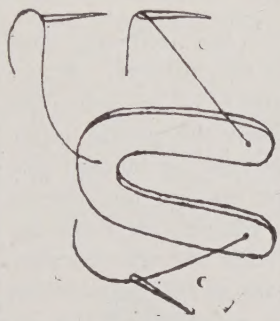
Cases have occured in which surgeons have sought for and found perforations of the gut, closed the abdominal wound, the patient has died a few days later from septic peritonitis, the post-mortem revealing an undiscovered and unclosed perforation which might have been detected closed, and patient recovered, had the gas test been used slowly and carefully until it ceased to escape from any opening. When it is desired to make an anastomotic connection between the two adjacent loops of bowel instead of the tedious method of suturing the edges of the opening in the two loops together the more simplified and modern method of using plates, mats, or segmented rubber rings, is resorted to with a great saving of time. A ring is placed in each loop and the two are drawn together by means of the threads attached to them thus holding the edges in contact. An incision is made in the gut in the desired place. The operator passes

one of the needles attached to one of the end threads, through the gut from within outwards about one-fourth of an inch from the edge of the incision, the ring is then passed into the intestine through the wound and the thread drawn tight. The other threads are passed in a like manner. The other ring is treated in a similar way and an assistant holds the loops of the bowel and the rings in apposition, the six pairs of threads are tied together taking care not to pull hard enough to break the thread. Place a few Lembert sutures around the rings to diminish the tension of the rings and to secure closer apposition of the serous surfaces.

The whole operation is quickly done. In performing the anastomotic operation where a portion of the intestine is removed, the two ends of the bowel are closed by turning in the edges and uniting them by a continuous or interrupted Lembert suture thus bringing the two serous surfaces in contact. If the serous surfaces are denuded it hastens the reparative process. The ends are made to overlap. The slit is made as near the convex surface of bowel as possible and about one inch from the divided end, the rings are then applied as directed. The ends of the gut may be united pointing in opposite or same direction but the preference is given the latter.

Dr. Shimwell says on this point, (and I have found it so in my experimental work,) "It has been advised to unite the small intestine in its natural direction. To me there is an objection to this mode. When division of the bowel has been performed and the ends invaginated the convex surfaces are to be united, as the axis of the two portions are the same; to approximate these surfaces it must be done at the expense of the mesentery. The two ends of the bowel must be moved side by side in opposite directions in the line of the axis to the point of approximation; this is a loss of mesentery to the extent of four or six inches by overlapping. Then to bring these together the two portions of bowel must be rotated on their long axis to bring the convex surfaces together. This shortens the mesentery. As the mesentery always contracts in these operations a further shortening of its length occurs thereby lessening the freedom of action. This is not of much importance when the mesentery is long, but if it is short it may give rise to annoyance. In my operations I have always fixed the two ends on themselves like the leaves of a book and attached the convex surfaces side by side. The mesentery is not interfered with and its length is preserved, the ends of the bowel beyond the union rounding off and contracting until only a knuckle is left."

If you remove any of the intestine a V shaped piece of the menestery may be removed, or you may sew the mesentery with a cobbler's stitch an inch from the bowel and divide it as close to the suture as you think it safe. The sutured gut must not project beyond the cut edge of the mesentery, otherwise its life is jeopardized because of the peculiar anatomical distribution of the arterial supply. Where there is an opening, or a number of them, yet not of sufficient size to demand a resection with an anastomotic operation, how shall we treat them? The better plan is to close each opening with an interrupted Lembert suture, or if two small openings exist and are close together, make one out of two and unite the serous surfaces as described for a single opening. You may in some cases use the horse-shoe approximation plates, or Brokaw's segmented rubber rings may be used. "The ring is introduced into the bowel and doubled upon itself and the threads are tied beginning with the end string and afterwards with the lateral. The addition of a few Lembert sutures adds to the security."



No. v.—*Horse-shoe mats with apposition threads attached.*

Dr. L. S. McMurtry in an able address before the American Medical Association in Cincinnati in 1888, related a case and presented his patient, a young physician, on whom he had

successfully diagnosed and closed a perforating typhoid ulcer.

Before closing my article I desire to make a few remarks on the diagnosis of bladder injuries. The recorded cases prove that there is a demand for more positive signs of rupture of the bladder than have been brought to bear on these cases in the past. The presence of non-bloody urine is not an infallible indication that a rupture does not exist. The same might be said of the injection of liquids into this viscus. I wrote Dr. Senn asking him if he had applied the hydrogen gas test as an aid in diagnosing bladder rupture, but before receiving his reply, Dr. Morton of Philadelphia sent me a reprint of an article written by himself.

In Dr. Morton's paper the following language occurs bearing on this subject: "Sometime since in an editorial (*Medical News*, October 6, 1888,) I suggested the gentle introduction of hydrogen gas into the bladder as a test of its continuity or rupture and cited a number of experiments which were made upon the cadaver to ascertain its effectiveness. These experiments so far as the cadaver was concerned were highly satisfactory, but no chance has yet occured to myself to put it into trial upon the living body."

In reply to my letter to Dr. Senn, he said: "Inflation of hydrogen gas in wounds of bladder has been suggested by the editor of the *Medical News* and has been applied successfully in one case. I have made a number of experiments on animals to carry this test still farther in ascertaining wounds of the kidney but find it impossible to force gas into the ureters."

"The method of experimentation was to introduce a catheter into the intact bladder and then to gently distend it, with the gas under moderate pressure. The organ would at once rise into the abdomen and make itself apparent by tumefaction and unwonted percussion resonance just above the pubes, but the percussion resonance of the rest of the abdomen would continue normal. If now a puncture is made in the bladder wall at any point the gas at once escaped into and distended the whole abdominal cavity, producing universal tympany and absence of before liver dullness." If an external wound exist the gas will escape by that avenue and can be demonstrated by a burning match applied to the place of exit. (I shall write more on the subject soon.)

In the last four months I have been carrying on a series of experiments on the lower animals, mostly dogs. I have used Davis' approximation mats and plates, and Brokaw's segmented rubber rings. I tried to get Senn's decalcified bone plates, but was unable to obtain them at that time but they can now be obtained from Shorse & Co., Milwaukee, Wis. Dr. Senn in speaking of his plates in Nashville at the American Medical Association said, that he now keeps them in a mixture of equal parts of alcohol, glycerine and water, and that in this solution they will keep for years and remain soft and pliable—quite an improvement over the older method of using them in a dry, hardened state.

In all my experiments save one my dogs recovered, in this case, one of ileo-colostomy, my dog vomited for two or three days, almost incessantly, after the operation. I will report the history of this ileo-colostomy:

No. VI—*Endsof gut pointing in same direction one apposition thread tied.*

Male dog, medium size, chloroform as the anæsthetic, Brokaw's rings used, incision in median line three inches in length; operation lasting forty minutes. A loop of ileum was incised convex border and a similar opening made in ascending colon about three inches above cæcum, rubber rings applied and a few superficial sutures put in. The serous surfaces were denuded before being approximated, very little bleeding as result of denuding process. Wound in abdominal wall closed with silk sutures taking in all the structures including peritoneum. Dog removed from table and placed in a room

by himself. He soon recovered from effects of operation and anæsthetic except a persistent vomiting kept up for several days. On the second day strangury developed (a not unfrequent complication where the operation includes the colon) and a few days later the dog died. The post-mortem revealed the fact, that portion of the bowel included in the operation of approximation had entirely healed, union being perfect. About five feet up the ileum was an intussusception, the gut being greatly distended above flaccid and empty below this point with evidences of localized peritonitis at the seat of invagination. I don't know whether this was the cause of the death, but believe it only secondary. Very likely this condition was the result of increased peristalsis, vomiting and straining in the efforts of micturition.

One of my dogs on which I had done a jejuno-ileostomy, used catgut mats, closing abdominal wound with catgut, on fourth day succeeded in pulling off the dressing and tearing out the sutures, several inches of omentum and a coil of intestine escaping. When I found him in this condition I thought sure he would die, but he fully recovered after the protruding viscera had been thoroughly washed in a hot antiseptic solution and replaced.

I have in one case in the human applied Davis' approximation plates.

The case, a patient of Dr. Curtis, briefly stated, was one of traumatic stricture of the ileum, the patient having sustained an injury some years ago. A complete stenosis existed at time of operation. Dr. Curtis kindly requested me to do that part of the operation, that is, the placing in of the approximation plates and tying the apposition threads. The patient dying from shock a few hours later.

In my limited experimental work and experience in making and using mats, plates, segmented rubber rings, I have arrived at the following conclusions:

First—That Senn's plates are hard to make, taking much time and labor to manufacture them. It requires at least a week to decalcify them. I would I believe, (although I have not used them) give my preference to the bone plates as used by Senn at this time over all other devices.

Second—The catgut mats (although the making of them is a tedious process) are to be preferred to Dr. Brokaw's segmented rings as the mats hold their shape better and do not take up so much room in the gut as the rubber rings.

Third—The *catgut plates* of Dr. Davis as manufactured by Johnson & Johnson of New York, are in my opinion second only to the bone plates of Senn's, and in this respect, are better, i. e. can with a pocket knife shape a plate and make it any size desired in a few moments time.

Fourth—The Brokaw segmented rubber rings are quickly made, easily applied, and would use them if time was precious or if the mats or plates could not be obtained readily.

Fifth—That the denuding of the serous surfaces hastens the union of the approximation layers of the peritoneum, and that this process produces less hemorrhage and quicker union than scarification. The primary glueing together of the approximated surfaces taking place sooner than in scarification, thereby giving early additional security should a stitch become loosened or give way.

No. VII—*Ends of gut pointing in opposite directions—one apposition thread tied.*

Sixth—That silk ligatures are stronger in proportion to their size as compared to catgut and are not as likely to slip or be absorbed before union is perfect and can be used with equal safety; they soon become encased in serous exudate and remain harmless.

I desire to return my thanks, on this occasion, to Drs. Senn, Davis, McMurtry, Price, Morton Brokaw and Herdra, for many quotations and suggestions gleaned by reading reprints kindly sent me.

Part of the plates used in illustrating my article were sent me by Dr. J. D. S. Davis of Birmingham, Ala.

EXPERIMENTS WITH HYDROGEN GAS.

You see gentlemen the dog has been thoroughly anæsthetized to overcome all voluntary muscular resistance. This dog is a medium size cur. I first introduce a piece of ordinary rubber tubing into the stomach, you see this tubing has two or three perforations near the end introduced, this is for gas to escape from the stomach through, in case the end of tube should become stopped from any cause. The other end of tube has a small glass tube inserted into its lumen, to prevent burning the rubber when the gas is ignited. You see this is an ordinary gas bag of rubber holding five gallons, to which, by means of this stop-cock, I attach this rubber tube, I have as you see been using a glass nipple shield as a rectal plug, and I assure you it has answered the purpose admirably. If the rectum is impacted with hardened fæces clean it out to prevent plugging up of your rectal plug.

No. VIII—*Ends pointing in same direction—operation completed.*

My assistant Mr. Graham holds the plug well in place while pressure is being made on the balloon, you see the colon is distending, the resistance from the ileo-cæcal valve has been overcome as you can now hear the gurgling in that region the resistance is less, that is, it does not require the same amount of pressure on the balloon to force the gas through. The stomach is now dilated and the gas is doubtless escaping through the tube. You see the blue flame when I touch the match to the end of the glass tube.

My friend Dr. Lane, has certainly shot the dog through the abdomen. We will see if a gut has been perforated by inflating with the gas again. You see the abdomen is uniformly distended and the resistance is much less than when the ileo-cæcal valve is below the site of the perforation, so I will predict an injury to the colon. You see the blue flame on touching a lighted match to the bullet wound; this is proof positive that the gut has been perforated. I will now open the abdomen and find the opening in the gut which you see is in the descending colon.

Gentlemen this test will never mislead you. It is truly "infallible."

The Pathology and Treatment of Intra-Pelvic Inflammations.

Read before the Kansas State Medical Society at Salina, May 14, 1890.

BY M. B. WARD, M. D., OF TOPEKA.

PROFESSOR OF GYNECOLOGY IN THE KANSAS MEDICAL COLLEGE.

MR. PRESIDENT:—Inflammations of the pelvic organs and their sequelæ, are the most common diseases with which the gynecologist has to deal.

In the entire scope of medical practice no subject has been so vaguely understood, and no other diseases so unscientifically treated.

It was about thirty years ago that Bernutz and Goupil, by careful clinical observations, and post-mortem investigations, first described the true pathology of pelvic inflammations. Many years passed by before their researches were properly understood and appreciated.

Some of our prominent teachers and authors still classify intra-pelvic inflammations as parimetritis and perimetritis, and recommend the treatment accordingly.

The demonstrations of Bernutz and Goupil in relation to diseased states of the ovaries and

Fallopian tubes, together with puerperal, specific, and other infections of the pelvic organs, have now been proved true by the daily explorations of the pelvic cavity within the past few years.

No two men have done more to place gynecology in the front rank of special surgery, than have Bernutz and Goupil.

I am not in the least unmindful that some in my presence may regard with no little suspicion, gynecology as a special branch of medicine and surgery. Gynecology furnishes so extensive opportunities for practical research and advancement, that there seems no good reason why it should not claim a place along with ophthalmology, otology, rhinology, and other branches already generally recognized as specialities. There is, therefore, no occasion to apologize or defend gynecology as an important speciality.

Daniel Webster once said of Massachusetts when one attempted to defame her good name, "There she stands, and the record of her discoveries and brilliant victories is ample excuse for her existence."

The same is true of gynecology.

In order that you may fully appreciate the wonderful advancement of gynecology, I will read an extract from a lecture delivered by Dr. Green—(not our president)—Professor of Obstetrics and Diseases of Women, in the University of Pennsylvania about a century ago:

"The ovaria are situated about three or four fingers' breadth from the sides of the uterus. They contain small pellucid eggs, from which they take their names.

"We don't understand the real use of the ovaria; but as far as can be learned they are of important use in the production of the human species, as may be easily known by taking them away from any animal, which from that time forth is evidently deprived of the means of generation.

"We believe that both male and female contribute, and in general are absolutely necessary to the generation of the human species; and, I imagine, that the finest part of the male sperm is conveyed to the ovary, and there mixed with the liquor, and at a proper time conveyed to the uterus by the Fallopian tubes, where conception is first made, and continues to go on."

"The cure of dropsy," continues this great author, "of the ovarium by internal remedies, is the same as that of dropsy of any other parts. You may try medicines, but they will seldom succeed, as the ovarium is in a manner out of the laws of circulation. The only way is by paracentesis, which may be performed the same way as in the common dropsy, and it is more likely to succeed as it is seldom like the common dropsy, attended with a scirrhous liver."

"The cure of a laceration is the same," says Dr. Green, "as that of an opening made by the falling out of the morbid spot. It is the business of nature, and all art can do is to keep the part as clean as possible."

M. Bernutz compared inflammations within the pelvis and the same process within the thorax as synonymous conditions.

Skene, and some other modern writers, have utilized the same analogy to describe the pathology of intra-pelvic inflammations:

"In both thoraic and pelvic inflammations, we have the croupous catarrhal process. We have pleuritis and parenchymatous inflammations on the one hand, and peritonitis and parenchymatous inflammations on the other. In pelvic inflammations we have recovery by resolution, just as in pleuro-pneumonia, leaving adhesions and bands in one cavity as in the other. When the inflammatory process so interferes with nutrition as to destroy vitality, we have pelvic abscess in the one site, and pyothorax in the other."

Bernutz further states that "uterine pathology is as certainly subordinate to a thorough acquaintance with pelvic peritonitis, as pulmonary diseases have been to a complete knowledge of pleuritis, made possible by the discovery of auscultation."

In order that I may impress with greater emphasis than it would be possible in my own language, the truth of Bernutz pathology, permit me to quote him still further:

After discussing the theory of pelvic inflammations promulgated by M. Nonat, essentially that of pelvic cellulitis, which until recently held full sway in the practice of gynecologists, he says: "For some time I had no idea that the view propounded by M. Nonat was a mere hypothesis which rested on

no post-mortem evidence. And it was not till after the unfortunately fatal termination of two cases, that I was able to prove incontestably that the peri-uterine tumor which, during life, presented all the symptoms of the so-called peri-uterine phlegmons, was not situated in the cellular tissue at all. In the autopsies in question, the tumor, which even after death presented all the usual signs, was seen to be formed by the pelvic viscera being matted by peritoneal adhesions. These researches then have led to the conclusion that inflammation of the pelvic peritoneum, which is the cause of the visceral adhesion, is a disease which is very commonly met with.

"Lastly, I conclude that inflammation of the pelvic serous membrane is symptomatic, and that it is generally symptomatic of inflammation of the ovaries or tubes. Thus great interest attaches to the study of this affection, and it is very important to understand thoroughly the symptoms in order to describe stisfactorily the uterine, and more especially the tubo-ovarian diseases which occasion it.

"It follows from all this, that unless we get fatal cases to enable us to determine anatomically where the pelvic inflammation began, we cannot state positively whether it came from inflammation of the ovary or of the Fallopian tube, nor whether it was caused from the puerperal state by blenorrhagia, scrofula, or any other malady. Thus we can only lay hold, as it were, of the two ends of the pathological problem—the primary diseases and the serous inflammation—the intermediate gap we can only fill up after death."

It is strange indeed that the researches of these great men, which constitute one of the most important discoveries in surgical pathology of modern times, should so long remain unnoticed.

Their work is a lasting monument to the genius of faithful industry and a painstaking life, which all should emulate. It was, however, left for the perfected aseptic surgery of the day to fill in that "intermediate gap" in life, that they only found after "death had claimed its unfortunate victim."

Dr. L. S. McMurtry, of Danville, Ky., one of the most successful abdominal operators in the southwest, in a paper read before the American Association of Obstetricians and Gynecologists, September, 1889, stated my views so precisely, and in such choice language, regarding the pathology of pelvic inflammations, that I cannot do better than to quote his words:

"1. Intra-pelvic inflammations cannot be properly classified as parimetritis or perimetritis, inasmuch as inflammations of serous and cellular tissues cannot be separated clinically or histologically.

"2. Peri-uterine phlegmon, of Nonat, is as rare as inflammation of the cellular tissue in other parts of the body.

"3. Intra-pelvic inflammation is, as a rule, peritonitis, resulting from diseases of the ovaries and Fallopian tubes, arising in puerperal or gonorrhœal infection, or the miscellaneous infections carried to the endometrium by unclean instruments, tents, or medicinal agents, or from traumatism.

"4. Pelvic peritonitis is symptomatic, never idiopathic. Pelvic peritonitis presents every grade of severity. In some instances there is a mere inflammatory spot, giving rise to but little discomfort at the time, and passing away without treatment, leaving a bare trace behind, often found post-mortem.

"A higher grade is illustrated by those instances wherein the peritoneum exhibits subserous congestion, transudation of serum, and exudation of plastic material.

"In a more severe grade there is immense transudation of serum, which accumulates in the pouch of Douglass, corresponding to pleurisy with effusion. In a very high grade the entire pelvic peritoneum is involved, the several stages of the process-congestion and exudation are followed by suppuration, an affection of fearful proportions, and unless treated surgically going often to a fatal issue. The sequelæ of pelvic peritonitis depend upon the vitality of the individual, the grade of the inflammatory process, and the area involved. Where the surface is limited, or may be quite extensive, recovery may take place by resolution and leave only slight adhesions behind.

"The product of inflammation may be deposited over the uterus, ovaries, and broad ligaments, leaving these organs imbedded or

entangled in a mass of adhesions. As time goes on the exudate passes through repeated stages of congestion into organized tissue, with constant tendency to contraction.

"Pressure upon the ovaries is followed by inflammation, degeneration and atrophy of these organs.

"The fimbriated extremities of the Fallopian tubes are imprisoned and destroyed. At each recurring menstrual flux these bands are made tense by congestion, increased in thickness, and more thoroughly organized. In addition to lesions entailed by pressure the secretions are retained, and ovarian abscess and pyosalpinx are common results.

"When the inflammation is very intense, involving sub-serous structures, the vitality of tissues is destroyed and one form of pelvic abscess is the result."

The diagnosis of pelvic diseases must be passed by nearly unnoticed, for the want of time to do any justice to the subject. I will ask your indulgence, however, while I briefly mention a sample of some of the cases that will present themselves to you for advice, and probably treatment:

The patient says she had a miscarriage some months or years since, or perhaps a labor at full term, and was seriously ill for some weeks, finally got up congratulating herself that recovery was complete; "but," she says, "I do not get any strength, my appetite is, most of the time, good enough, but my food does not increase my vigor, and I do not seem to be at all as I was before."

She presents a pinched expression, looks pale and anæmic, says she suffers from constipation, can't walk or stand erect without much inconvenience, has lucorrhœa, irregular and often profuse menstruation, complains of a feeling like something is going to fall out, which she naturally attributes to prolapsus uteri. There is great tenderness upon pressure over the ovarian region. She walks with a 'peculiar gait, characteristic of one with a bubonocele.

This apparent condition, with nearly all of these symptoms, may come from an attack of gonorrhœa, (innocently contracted), that most insidious and damnable of all the diseases which women are heirs to; or, she may have been exposed to cold, damp weather during her normal menstruation, which resulted in congestion of the valveless veins of the pelvic organs, thus damming up the circulation; inflammation of the ovaries and tubes, and subsequently occlusion of the latter are the sequelæ.

Without dwelling longer on the diagnosis, we come to inquire what treatment is to be suggested. First, what have we generally done for these cases? Have we not examined with a sound, (the most dangerous of all the armamentarium known to gynecology), measuring the depth of the uterus, trying to trace its curvature, pry and twist the instrument to see how much the patient can endure without screaming, and not unfrequently trying to replace a supposed retroverted or retroflexed condition by a twist of the wrist, as it were, finding most invariably a tender and bleeding endometrium with sub-involution, patulous os, &c. And do we not say to our patients, "Yes, madam, you have a *large, tender, bleeding, prolapsed, retroverted uterus, with ulcerated and lacerated* cervix, which will require six months or a year to cure."

Granting that the unfortunate patient has consented to try the treatment, (which we judge proper), what are we in the habit of doing? Under the most careful antiseptic precautions possible with the surroundings, we dilate the cervix, curet the cervix, and perhaps the endometrium, apply on a cotton holder carbolic acid or tincture of iodine to the curetted surface, and the gaping, abraded and bleeding os; apply to the vaginal fornix tincture of iodine, replace the uterus, if we can, and introduce a cotton tampon to which is attached a silk thread, to facilitate its removal by the patient, and request the afflicted one to return two or three times a week for the same treatment; when the facts are, we are just as liable to do her harm as good, if for no other reason than this, namely, a mistaken diagnosis.

The true condition being a diseased state of the uterine appendages, and the uterus is suffering from sympathy with the diseased environment.

If the foregoing is not a true picture, hold up your hand and deny it. I am certainly

guilty, most guilty, but I hope none of my hearers are.

Is it not true, also, that some of us have excited tubal trouble by our careless methods of conducting examinations of uterine and pelvic diseases?

Did you ever stop to consider how very difficult it is to pass a sound to the fundus uteri without carrying along with it septic germs? These germs, once lodged in the uterine cavity, are certain to migrate to the tubes, where they excite the conditions before described. Beware of the sound, that useless instrument in diagnosis—it is a relic of the past. *Do not use it.*

In this connection, permit me to digress from the main question, and say one word against gynecology, or rather, against this feature of it. All the ills of women are not centered in the pelvis. Gynecologists ought always to try to trace the causes of disturbed functions to nerve exhaustion, intemperate or careless habits, the neglect of nature's demands, &c., rather than at once try to locate everything below the umbilicus.

There are two principle reasons for this: First, you will quite often find the cause of the diseased conditions without any signs of pelvic complications; and second, should it subsequently be found necessary to investigate the pelvic organs to locate the exciting causes of deranged functions, you will at least have won the confidence of the naturally timid patient, and your usefulness will be thereby greatly enhanced.

When consulted by women with histories corresponding to those of pelvic diseases, our tact and skill will be put to a severe test to always know the best course to pursue. No routine plan can be always followed. I usually, however, advise my patients that their symptoms and history point to certain conditions, but would prefer to defer examination until another day, so that I can better prepare them for it. I then prescribe a saline cathartic, and request them to return within the next forty-eight hours, at which time I will be able to make a more satisfactory examination.

If upon examination we find the patient suffering from chronic salpingitis, but in no immediate danger of serious trouble, it is well to place them on small doses of sulphate of magnesia, ten to twenty grains two or three times a day, thereby keeping the contents of the bowels softened, and with this a bitter tonic, advising the patient to feed herself well, exercise moderately, and to be exceedingly careful of exposure to wet or cold weather; and better still, keep in bed during her menstruation, and report once each week, that she may be kept under the surveillance of her physician.

In addition to this, advise her to use a gallon of very warm water as a vaginal douche two or three times a day. Many of these cases can thus be made comfortable, at least for a time.

There will apply for advice and treatment another class of patients, namely, those who have been treated for perhaps months and years for every imaginable uterine disease, by numerous physicians of every creed, and by every method known to the profession and out of it, and yet they are confirmed invalids.

What shall be done with this class of cases? Shall we recommend the use of electricity and absorb the tumors, break up the adhesions, open up the occluded tubes, and spread out the congealed fimbriated extremities?

I request each of you to carefully examine these specimens of diseased ovaries and tubes which I now pass around, and then you can judge for yourselves whether electricity in any form would be likely to make of them healthy organs.

Most of these specimens I saw removed by Dr. Joseph Price of Philadelphia—some of them I have myself removed. I can, therefore vouch for their identity in case they are so changed in form as not to be recognized.

What a blessing to all concerned it would be, if some method could be discovered to promise a cure in these cases without *operative* interference. None has yet been found, and the prospects are not very flattering that in our day any will be.

In this connection I cannot refrain from quoting the language of Dr. Price, the most successful and most experienced laparotomist on this continent:

"To all operators recognized as standing in the front rank of abdominal surgery, the defense of early ovariotomy is needless.

"In this method of dealing with abdominal diseases, ignorance and excuse for waiting are veiled by promises and explained by subterfuge; while the disease is daily making progress and its cure grows more difficult, or perhaps impossible.

"Who are the men who refuse to assist these patients under the conditions which we are now speaking, or are unwilling that their patients should have the advice or assistance of others, who hold the sufferers while they grip their fees, and ignorantly or audaciously tamper with human life?

"The answer resolves itself into this: Either having stood while progress passed them they are unable to grasp the present, or they are influenced by the base desire to hold patients who may be scared away by the suggestion of an operation, or having given an opinion they refuse consultation, lest adverse opinion be given and prestige be lost; or else they are unable to diagnosticate the condition, and hence are unable to come to a conclusion concerning it.

"I hold, without fear of successful contradiction, that no honest man should fear consultation. That any man is always able to come to an exact knowledge of the condition in abdominal disease, I know is impossible, and two men, however skillful, may fail, yet two men can come by honest conference to a conclusion approximately correct, sufficiently exact for the best interest of the patient, which will enable them at last to decide upon the advisability of operative interference."

"Who that has had any extended experience," says Dr. Bantock, of England, "of this operation has not seen cases, far too numerous, in which the patient has been allowed to go on until the operation has become a forlorn hope? I can unfortunately quote too many instances of this."

Dr. Price has *never lost a case on whom he performed abdominal section for pelvic inflammations where there were no complications.*

There are a number of collateral branches connected with this subject which it was my intention to refer to, but I have already said too much, and will close by making a very brief reference to the "modern methods" of operating, stating dogmatically, and without any further explanation regarding my reasons, a few thoughts on this question:

Asepsis, pure and simple, is all that is required in any case of abdominal section. When I say simple asepsis, I do not mean that it is an easy thing to have perfect asepsis in any case, for I consider it a herculean task to make the room, fixtures, patient, dressings, water, instruments, and everybody connected with an operation perfectly clean. It is the hardest part of successful surgery, but it is satisfactory.

Nothing by way of irrigation but pure warm water should ever enter into the peritoneal cavity. Drainage is always demanded when there is a septic condition present. No food of any kind should be allowed the patient for twenty-four hours after the operation. Perfect quietude must be insisted on.

Salines ought to be given freely before the operation, and promptly afterwards. No morphia at any time. Patient must be kept well protected for fear of pneumonia, and not allowed to turn on her side for forty-eight or seventy-two hours. Incision ought to be only long enough to give exit to the tumor, say on the average one inch and a-half. Instruments should be few in number and simple in construction. Silk is preferable for all sutures and ligatures. Dry dressings of the incision is best. Finally, everything depends upon the most extreme painstaking in carrying out the minutest details of the operation.

DISCUSSION.

Dr. Adams, of Kansas City, said it was a pity that time was not given to discuss such a paper. The pathology of intra-pelvic troubles was important to every physician. Never lift the uterus with a sound in replacing it. The whole field of abdominal surgery was covered by the paper.

Dr. Fabrique was pleased with the paper, but thought the incision should be longer in abdominal sections. Thinks we ought to make the incision long enough to see what we are doing. May often want to see the trouble. The sound is a very useful instrument in diagnosis. Can not get along without it. Thinks one can use a sound and do no damage.

Dr. Hogsett said he had a number of these

cases, and could not have done anything without the sound. In retroflexion and antiflexion where they are chronic, the sound must be used.

Dr. Adams—That the uterus which could be replaced by the sound does not need a sound.

Dr. Oldham said he did not hear the whole paper. Said it was important to all, to know well the subject discussed in the paper whether practicing as a specialist or not. Sometimes the patient may have suffered from what is supposed to be malaria, when it is really a disease of the pelvic organs. Thinks the sound is essential in diagnosis, and not harmful when carefully used. The breaking up of adhesions is a very grave question.

Dr. Ward in closing the discussion said that it was very important to make the incision as short as possible in removing the diseased appendages. Nothing can be gained by a long incision, as we cannot see into the pelvis, and the shock is much greater to the patient, and there is more danger of ventral hernia. He insisted that the sound should not be used indiscriminately in the diagnosis of uterine diseases. It is not necessary to the diagnosis of versions or flexions. Explained the method of bi-manual examinations, which, if carefully practiced, would enable any experienced physician to diagnose the position of the uterus without a sound.

The Cause, Prevention and Management of the Summer Diarrhœa of Infants.

Read before the Academy of Medicine and Surgery at Topeka, Kans., July 1, 1890.

BY C. C. GREEN, M. D., OF TOPEKA, KAS.

Mr. President and Members of the Academy:

With the approach of the heated term there inevitably appears a class of diseases which, notwithstanding the great achievements wrought out through the agency of the laboratory and microscope, continue to test and baffle the skill of the physician, and leaves in his wake cries of anguish and desolation. Inasmuch as our efforts are so often unavailing, it is now an opportune time for us to take counsel with each other in order that by our united experience and judgment, many of the little ones may be spared.

As a preface to a consideration of the phases of this malady as outlined by my text, I may say that it is not my purpose to give either an historical or pathological review, neither is it necessary for the purpose of the present discussion, to differentiate between the catarrhal conditions found in different portions of the intestinal tract, or between different grades, as entero-colitis and cholera infantum, choosing rather to consider them as varying only in intensity.

In speaking of a disease of infancy, we mean it to apply to children under two years of age, or to diseases to which they are especially subject prior to the eruption of the temporary teeth. This period also covers the possible limit of their dependence upon the mother for nutriment.

Our experience has induced an arbitrary division of such children into two distinct classes:

1. Those which receive their supply of food from the mother.
2. Those supplied with artificial food and known as bottle-fed children.

There are two prolific causes of diarrhœa in nursing infants. The first and most potent is the ingestion of too much milk. This comes from a desire on the part of the infant to quench the thirst. The intense heat causes an excessive transpiration of the fluids of the body which creates a demand for water which is rarely supplied. The child worries. The mother, ever ready with her panacea, gives it the breast, which baby takes eagerly in an effort to supply the want of water. The ingestion thus of food not demanded by the system, overtaxes the digestive power of the stomach. Unless emesis takes place, the partly digested milk passes into the intestines to produce the usual train of attendant evils. The second chief cause will be traced to digestive disturbance with the mother, or indulgence by her of proscribed articles of food. The treatment of these two classes will be indicated without much comment. Either may need a single laxative dose in order to clear the intestinal tract. In the first class a liberal

amount of fresh, cool water must be regularly supplied at frequent intervals. As a result no more food will be taken than the system requires, nature's forces will perform their functions, and the normal condition will be re-established. In the second class, your attention will be directed to the mothers.

Especially during the heated term I always instruct the mother to give baby freely of cool water before each nursing. I do this in order that a regular supply may be obtained. Directions to give water at stated intervals will not be followed, but the mother will always be reminded of her duty when about to nurse her infant. The same rules governing water supply must be applied to babies taking artificial food.

As our skill is usually brought into requisition in behalf of the bottle-fed children, I have thus briefly touched upon the diarrhœa of nursing infants and indicated the simple means which will usually relieve the disturbance. The continuation of the subject will be understood to apply to children reared upon artificial foods.

Various causes have been assigned in the past as productive of summer diarrhœa, to all of which the influence of heat has been considered as contributive. Excessive or prolonged heat enervating the system, weakening or arresting the digestive function, permitting the ingress into the intestines of partly digested food acting as a foreign body to produce inflammation, sudden changes from heat to cold by arresting transpiration through the sudoriparous glands and a corresponding turgescence of the capillaries supplying the digestive tract and there producing an excess of action, contamination through the atmosphere by the introduction into the system of the products of decaying organic matter, improper food, unripe or overripe fruit, dentition, etc.

The etiology of summer diarrhœa has, however, undergone a remarkable change since Lister with his antiseptics demonstrated the cause and prevention of putrifaction, and other investigators have defined the relation of germs to diseased structures. I assume that the germ theory of disease (especially when the decomposition of organic matter is so apparently causative,) is so firmly established that a defense would not be admissible before the academy.

In a paper read by Dr. Jeffries, of Boston, before the American Pediatric Society, September, 1889, he claims to have found thirty-one varieties of bacteria in the fæces of diarrhœal patients, no species, however, being in sufficient numbers to be constituted a specific germ. As a result of his experiments, he found that cats fed on pure cultures of the various kinds remained perfectly well, but if fed on cultures of the several kinds given in milk, contracted diarrhœa which ran on to a fatal issue, although food was changed to fresh milk. Kittens fed with milk in which bacteria had developed but sterilized before becoming curdled, died in the same way. His conclusions were, that the diarrhœas were caused, not by the bacteria themselves, but from the resulting alkaloids or ptomaines.

Bacteria are found in the fæces in moderate quantities during health. If, however, through the antifermentative powers of the digestive fluids their rapid development is prevented, no disturbance occurs. It is only when through the administration of foods or other substances already teeming that they are able to overcome the function of the digestive secretion, that their influence is manifest. The researches to determine the source of the diarrhœas as occurring in the army, led to the conclusion that they were dependent upon the decomposition of organic matter of animal origin; that water taken from the streams in which large quantities of vegetable matter was decomposing and free from animal matter, was harmless.

We may then consider the causes contributing to summer diarrhœa of infants to be: 1st, excessive heat which enervates the system and favors the rapid development of bacteria; 2d, the administration of foods in which, from the presence of bacteria, fermentation has begun. Heat, then, does not, only through other agencies, cause diarrhœa. It is, however, the aggregation of the several influences; heat, with the attendant decomposition of organic matter, improper food, furnishing a nidus for fermentative action, bad hygienic surroundings, sudden changes from heat to cold, etc.

When it is found that the mother cannot nurse her new-born infant, the physician is confronted with a problem, that of directing the food supply, which will often tax his skill. What food shall be recommended? With reference to what are usually termed baby foods, should I express in a single sentence my judgment and experience, I would say, if your child is under eight or ten months of age, do not use them. The salivary, gastric and intestinal glands in children of this age are in a formative stage of development and unable to supply the means of digesting the starches and other products which go to make up the food supply of older children. If the claim is made that these constituents are predigested, it will be well to remember that while the laboratory can produce a compound having all the component parts of a natural product, the chemist cannot endow it with the vital principle. I believe we have it in our power to so utilize cow's milk (the most perfect chemical substitute for that of the mother) so as to dispense altogether with the use of farinaceous or other substitutes. In the successful solving of the one question of food, we hold the key to the prevention of a large per cent. of the summer diarrhœas. Milk, when drawn from the breast of the mother or udder of the cow, is practically free from germs. The nursing infant receives its supply without its having been exposed to the atmosphere and consequently is exempt from the digestive disturbance. Not so the unfortunate dependent upon the bottle. Milk exposed to the air in a very short time teems with germs and in a very few hours fermentation takes place. If supplied by a dairy, its vital property is destroyed by the continuous churning to which it is subjected in transportation.

How, then, shall we direct the preparation of cow's milk? In three different ways. The hygienic condition of the cow should receive your attention. All milking utensils should be perfectly clean. While cow's milk is the most perfect substitute, there is a marked difference in some of the constituents, there being a large increase in the amount of casein, a lessened increase in the albuminoids and a decrease in the amount of milk sugar. The well known fact also should be kept in mind that the casein of human milk coagulates in flakes, while that of the animal forms large, firm masses. If these variations are always kept in mind, we will be guided, not only in the preparation of food, but will comprehend the significance of the appearance of lumps of casein in the stools.

In giving dietetic directions which involves some care and trouble, it is well to impress the fact that it requires less labor to keep a child well than to care for a sick one.

The vitalizing power of milk is at no time greater than when freshly drawn from the udder and still retaining the animal heat. If a family cow is kept and stabled, the rational way is to get supply fresh for each feeding. This fresh, warm milk should be diluted with water previously boiled and in proportion as designated by J. Lewis Smith: for a child under one month, two-thirds water, gradually decreased to one-half at end of third month, and to one-fourth at end of six months, after which clear milk may be given. Milk so supplied will often be fully digested. If, however, lumps of casein appear in the stools, this excess must be predigested in accord with process of Fairchild Bros. and Foster.

A small amount of grape or milk sugar should always be added to cow's milk.

If from any reason this plan is impracticable, one of the following should be adopted. Remembering the proposition that milk freshly drawn is practically free of germs, our purpose is to so maintain it. If milk is taken from the cow and immediately placed in bottles and securely sealed, no germs will find admittance from without. Therefore, have as many bottles cleansed as will represent one for each feeding through the day, or night, and upon milking, immediately place sufficient in each bottle for one meal only, cork securely and place in a cool place. Milk so secured will keep sweet for twenty-four hours, when if exposed to the air it would ferment in ten hours. When used, shake the bottle to break up the oil globules, warm, dilute and sweeten as previously instructed, attach a plain rubber nipple *without any tube*, and give to baby. If any remains over do not keep it for a subsequent meal but throw it away, thoroughly cleanse bottle and nipple at once, and place in a solu-

tion of bicarbonate of soda. If from this process any lumps of casein appear in the stools, milk must be peptonized.

The most successful manner of preparing cow's milk is by sterilization. Milk subjected to a temperature of 212° for ninety minutes will be freed entirely of germs and will remain unchanged for days, and if resterilized, in from five to seven days, will be preserved indefinitely. As some may be unacquainted with the process, I have brought with me my sterilizer (Arnold's patent) in order that you may note its construction and that you may be convinced of its utility I show you three samples of milk which, by tasting, you will find to be perfectly sweet and palatable. These samples have been sterilized, one one hundred, one seventy-six, and one fifty-two hours. When you consider the excessive heat of the last few days and learn that the same milk in open vessel unsterilized became sour in ten hours, you must be convinced of the utility of the process. This milk was taken from my own cow and within ten minutes was placed in the sterilizer where it remained for ninety minutes. The corks of absorbing cotton which the bottles now have were placed in prior to sterilizing. Bottles were kept in the cellar without ice.

As in the former instruction, place in each bottle sufficient for one feeding only, using as many bottles as required for a day's supply. Do not allow baby to nurse twice from same bottle without its having been cleansed. Peptonize if curds appear. The best substitute for the sterilizer is to place bottles in a tea-kettle upon some elevation which will keep bottles above water. Success will not be attained with the ordinary steamer, as an equitable temperature cannot be maintained.

An interesting table is given by Dr. Chapin of New York in the *Medical Record* for June 21, 1890, which shows the character of curds formed by the addition of different reagents to plain cow's milk and to sterilized cow's milk, smaller and softer curds being produced from the latter.

Why not boil instead of steam, inasmuch as either process will destroy germs? Boiling produces changes by coagulating the albumen and eliminating gases which render the milk unpalatable, while the agitation destroys its vitality. Milk should be sterilized immediately after taken from the cow, as the process will not render inert the products of bacteria. Without germs there is no fermentation. If, then, by this simple process we can furnish a supply of food to the babies with the elements of danger eliminated, and containing all of the properties of mother's milk, for the assimilation of which nature has provided, we have more nearly solved the problem of prevention than has hitherto been reached.

The results are thus summed up: The destruction of all germs by sterilization preserves milk indefinitely, bottling the milk immediately, which prevents ingress of germs but does not destroy those present, when milk was sealed, preserves it from twenty-four to thirty hours, while exposed milk ferments in ten hours.

Regularity of supplying food must be insisted upon. Teach your nurse to supply the demand for water before attempting to quiet a restless child with food. The digestive organs sometimes need rest. To aid in accomplishing this purpose, especially during the summer, babies should sleep at night in the cradle where they are comfortable and undisturbed, and will often sleep the entire night with a single feeding.

With the theory of prevention established, the indications for treatment are apparent.

Before considering this division of our subject, let us review the lines of treatment which have met with the greatest success in the past, that we may arrive at the relation of the therapeutics of the past with the etiology of the present. Evacuents have always been used for the purpose of clearing the digestive tract and depleting the intestinal vessels and glands. Mercurials for the same purpose, upon the theory of the promotion of the flow of bile which contributed to the peristaltic action of the bowels. Ipecac, when given in large doses, (more especially in dysentery,) the first dose producing emesis, the stomach becoming tolerant of the succeeding doses, a free endosmosis takes place from the intestinal glands; results: depletion and evacuation. The astringent treatment, always irrational, has been practically discarded. What, then,

has been the rational operation of these various remedies, along with creosote, salicine, mineral acids, etc.? Directly or indirectly antigermicides. The evacuents, either through their mechanical effects or by the elimination through the intestinal glands, clear the canal of germs, their products and the nidus of propagation. The mild chloride converted in the stomach by the hydrochloric acid into a bichloride, at once becomes a potent germicide.

Both the treatment and prevention of this difficulty are subject to dietetic rules. When first called to a case, ascertain the condition of the intestinal tract as regards the presence of undigested or fermenting food which, if present, will call for an evacuent. What should be used? If the entire tract is involved, my preference is for a solution of sulphate of magnesia, dilute sulphuric acid and peppermint water. This produces a free endosmosis from the vessels and glands, relieves the congestion and is sedative to the irritated surface. If a simple duodenitis, I prefer the mild chloride in small doses, triturated with sugar of milk. While I admit to a prejudice against caster oil, it may be used to advantage adding an equal part of glycerine, which covers the taste and adds to its eliminative property Stomach being irritable and food undigested, stop all regular supplies for twenty-four or more hours, until quiet is restored. For this period the child will not require much food. A little barley water in which the white of an egg has been beaten to a froth may be given. Water, distilled or boiled, must be given in small quantities at frequent intervals. In twenty-four hours the second indication for treatment will present. Your chief reliance should now be placed in dietetics and the maintenance of an aseptic condition of the digestive tract. Direct the preparation of food to accord with suggestions before made, peptonizing to insure digestion of casein. I am much pleased with the results of Listerine, given with a vehicle of glycerine and water. It is an effective germicide, is palatable and soothing to the irritated stomach. Naphthalin has undoubted value. Being insoluble in water, it may be rubbed up in sugar of milk or may be made in solution with ether or acetic acid, or may be dissolved in boiling alcohol and given in vehicle of glycerine or mucilage. It is said to pass unchanged into the intestines, that its effects are salutary, is evidenced by the complete deodorization of the stools. Theoretically salol is indicated, as it undoubtedly passes unchanged into the duodenum, but unlike naphthalin, which is eliminated by the bowels, salol makes its exit by way of the kidneys. While there may be a question as to our ability to introduce a germicide into the intestinal tract for local effect, it is immaterial, so long as we can prevent the passage from the stomach of infected material. The normal gastric secretion is antiseptic through its digestive and antiputrefactive property. If the normal function of digestion is maintained, but little harm results from germ products. If acidity of the stomach exists, you should remember an axiom of Bartholow's (in which case you will find but little use for alkalies :) "Alkalies simply neutralize acids, while the mineral acids arrest the fermentation upon which the production of acid depends."

Astringents and opium occupy a very doubtful place in the treatment of this affection. They check peristalsis and elimination, and thus aid decomposition. Bismuth, claimed by some as an astringent, is an effective remedy. I use it for a different purpose. If vomiting is excessive and discharges watery and profuse, large doses will relieve the condition. I regard it as a local sedative. Being converted into an inert sulphide, it comes in direct contact with the inflamed structures, when it allays the irritation without interfering with glandular action. Aromatic spirits of ammonia or carbolic acid, in minute doses may be used for local effect on the stomach.

If the child is suffering much pain, which cannot be relieved by external applications, small doses of some preparation of opium may be used, preferably the camphorated tincture. If the baby is simply irritable, restless and peevish, fluid extract of hyoscyamus and spirits of chloroform, in small doses given in glycerine, will produce quiet and rest. A fractional drop of carbolic acid, given in lime water, will often quiet the stomach. If stimulants are needed, use alcohol.

A word concerning the so-called mechanical

treatment, irrigation of stomach and bowels. There can be no doubt as to its utility, as applied to the intestines, while I think there is but little demand for its application to the stomach, where serious objections will be urged against its use in private practice.

To be successful, the tube should be passed beyond the sigmoid flexure and sufficient water used to flush the entire colon, as the serious lesions are found at the ileo-cæcal valve. Temperature of fluid must be governed by body heat. We should always bear in mind the tendency these acute conditions manifest to become chronic, and that there are resultant lesions to overcome. Minute doses of sulphate of copper will give good results in these chronic cases.

DISCUSSION.

Dr. R. E. McVey thinks the tissues normally sterilize themselves. As for fermentation the trouble is in the acid glands. Gives hydrochloric acid, dilute. Heat is not an unimportant factor in causing summer diarrhœas of infants in cities, but not heat alone, the various poisonous gases have an influence.

Dr. Lindsay has had no experience with sterilized milk. Does not think the tissues will sterilize themselves; careless feeding a cause of diarrhœal disease in children. Commended the paper and thought the sterilizing process worthy of a trial. A flannel band should be worn around the bowels. Colds often a cause of diarrhœa.

Dr. W. E. McVey thought that in sterilizing milk the temperature should be kept below the boiling point if you over heat you have a boiled milk. Spoke of the difference in the taste of samples the oldest sample having a boiled milk taste.

Dr. Magee—Milk is a potent carrier of germs and some means should be made use of to eradicate them before the milk is given, if not given fresh from the cow. Spoke of allowing the diapers to remain on the child too long when soiled, this is sometimes a cause of disease, or will keep up the disease when already existing.

Dr. Minney thought the paper a good one. In the country thought fresh milk from the cow the proper food. Milk the cow every three hours if necessary. It will not cause her to go dry. The infant should sleep alone. The septic condition is brought on by the food taken into the stomach. Sterilized milk has its use but it does not take the place of cow's milk.

Dr. Sheldon—The paper is in the line of modern research of germ action. We often find disease in the child fed by the mother, the question then is how shall the child be fed? How shall we prepare artificial food for it and how treat the diarrhœa? Nature attempts to eliminate, we should follow nature, use evacuants, then follow with mild antiseptics. Even before the germ theory was advocated we used antiseptics. Have for years given calomel chalk mixture, carbolic acid, &c., not for their antiseptic action but because we saw that they controled the disease.

Dr. Stewart has been in the habit of sterilizing milk by placing quart jars in a pot of water and bringing the water to the boiling point, then removing. The amœloid life is destroyed by boiling. It perhaps is true that the normal tissues will sterilize themselves but when improper food is furnished too long the tissues lose their vitality. Prefer washing the stomach with plenty of water to drink rather than by means of a tube. Irrigation of the bowel good, it washes out the bowel and in addition takes the place of the water lost from the tissues in the discharges. Irrigation will satisfy thirst also. Where practicable, would recommend giving fresh cow's milk by milking the cow often.

Dr. Mitchell—The progress has been great in the treatment of children. Do not treat by routine. Look after the little things bearing on treatment. Preserve an equitable temperature by means of proper clothing. Have a competent nurse, do not allow the infant to be tossed about by the children. Change of temperature a frequent cause of infantile diarrhœa.

Dr. Morgridge Sen. after complimenting the paper said, our fathers builded better than they knew when they gave antiseptic preparations. Infants have a certain amount of ability to throw off disease while in fair health. The paper considers them after the functional activity is impaired. Thought sterilizing the milk a step in the right directien. Cow's

milk the best food, but when used sometimes after being obtained should be sterilized.

Dr. Pelton said that in some cases where the child was vomiting and purging a wet bandage applied around the child supplied the waste by transudation and relieved urgent symptoms. Said that in cholera infantum he often used ergot to produce contraction of the vessels, has also used nux vomica, more particularly in those cases where the brain symptoms. Cases where the brain symptoms predominate are often brought on by heat and bacteria.

Dr. McGuire thought pure milk the proper food. Was glad to notice that the author of the paper discarded long tubes for the bottles. Keep the babies comfortable, and give them plenty of water.

Dr. Rodgers spoke of the atmospheric conditions,and thought that when diarrhœal troubles prevailed epidemically but little could be done in the way of treatment. Had seen all plans fail. Did not think bacteria was the cause so much as is generally thought. Thought there was too much importance attached to bacteria causing disease. That they exist is not direct proof that they cause the disease. The cases where the discharges contain the most bacteria are not always the most severe.

Report on the Progress of Ophthalmology.

Read before the Kansas Medical Society, at Salina, Kansas, May 14, 1890.

BY D. F. LONGENECKER, M. D., EMPORIA, KAN.

The title, "Recent Advances in Ophthalmology," under which I have been requested to write a paper for this meeting of the State Medical Society, might in times marked by rapid progress, admit of various interpretations, but when used by a medical society that meets but once a year, it would seem to indicate advancement made subsequent to a previous meeting.

The society was favored last year with an admirable paper on this theme by Dr. B. E. Fryer, of Kansas City, in which the general forward movement of ophthalmology was very clearly and completely presented to that date.

During the last year, I can say that much hard work has been done in the field of ophthalmology, both in this country and in foreign countries, and that many papers have been written on subjects new, and subjects yet in the toils of controversy.

The greater part of the abundant literature has been devoted to comparing the relative merits and demerits of former advancements, and hence I may add that the greatest progress has been made in elaborating and arranging, which to the oculist is full of interest, but to a body made up almost entirely of general practitioners, a strict adherence to this sort of material might, on account of the technical character involved, and the space shortened, antecedent and attendant history seem tedious and unprofitable. So I shall not confine myself exclusively to the general advancement, but will endeavor to report most recent views on all subjects which, in selection and presentation have been governed by a desire to interest the general practitioner as well as the oculist.

I will begin by introducing the subject of cataract extraction, as this operation occupies the first place in eye surgery, and has been the theme of many papers and much controversy during the last year.

The old plan of operation, familiarly known as the "Græfe method," and which seemed, in regard to safety and results all that could be desired, has at last after an absolute reign of over a quarter of a century, been asked to divide its sovereignty with another or more recent method.

The strange feature of the present contest for first place is the fact that this new rival called "simple extraction," is almost similar to the very old, or "flap extraction" method, displaced by the Græfe operation over twenty-five years ago. A return as it were to first principles.

The Græfe operation, as you very well know, is characterized by a sclero corneal incision and iridectomy, the incision though, has of late years been gradually moved by many of our most skillful operators into corneal tissue. The other, or more recent method, known as simple extraction, consists in a corneal incision without iridectomy.

There are many other different features in the technique of the two operations of which I will not speak, as they have been discussed so freely and frequently in the medical journals.

The vital point around which interest and importance seems to centre at the present time is the comparison of results. And in this particular the advocates of the new method are able to make a good showing, in fact eclipsing in some respects that of the old method.

The percentage of total failures is in some reports less, and on the other hand the percentage of perfect vision measurably greater. Statistics when carefully and truthfully prepared are convincing arguments, and when showing the results of men of larger opportunities, must influence more or less men in a more limited field. Dr. Knapp, of New York, made a report last year of 1,000 cases, in which 800 were done by the combined operation, and 200 by simple extraction, or the late method without iridectomy. The highest record of good results in the 800 cases was 91 per cent., the lowest 82 per cent. In the 200 cases by simple extraction the increased percentage of good results is at once apparent, as there was in the first of the series good results in 96 per cent., and in the second good results in 67 per cent., with, in the latter, moderate results in 2 per cent., and a loss of only 1 case. The good results of the simple extraction method in the above report, were marked by more cases of perfect vision than the former, reaching in one series the high rate of 21 per cent.

I have since noticed in a subsequent report in the *Archives*, by Dr. Knapp, that ultimate results in the second series, or hundred, gave 30 cases with perfect vision, of $\frac{20}{20}$. It might be proper to state that the later operations by Dr. Knapp have been supplemented by a secondary operation known as discission of the capsule, which was performed seventy-four times in the last hundred cases.

Dr. Ball, of New York, submitted to the New York State Medical society, last October, a report of 100 cases of simple extraction, resulting in vision as follows: Vision of $\frac{20}{20}$ in 6 cases, $\frac{20}{30}$ in 13, $\frac{20}{40}$ in 24, $\frac{20}{50}$ in 22, $\frac{20}{70}$ in 21, $\frac{20}{100}$ in 10, $\frac{20}{200}$ in 2, counting fingers at several feet in one. By regarding vision of $\frac{1}{10}$ good results, the percentage in this report would be 98.

Dr. Ayers, of Cincinnati, made a report to the Ohio State Medical society at Youngstown last May, of 22 cases of simple extraction, with the following results as to vision: In one there was a vision of 0.7, in two 0.5, in 4 0.4, in 2 0.3, in 8 0.2, in 12 0.1, in 2 $\frac{1}{20}$, and in 1 a total loss. Per centage of good results with vision of $\frac{1}{10}$, or better about 90 per cent.

The extremely favorable showing of these few statistics, which are supported by many others, almost, if not quite so favorable for simple extraction, and the desire on the part of oculists for an "ideal operation" with a natural pupil, would seem to indicate for this plan a promising future.

The operation is much more difficult in performance, and much more liable to be followed by serious after-consequences; but notwithstanding these facts the brilliant results of a few, and the alluring round and movable pupil, have in the last few years steadily charmed it into favor. There is yet a strong influence that stands in the light opposition, and represents the conservative men of the profession, or those who desire to confer the greatest good upon the greatest number, and who will adhere to the method attended by the least risk.

Alfred Græfe, at last year's meeting of the Heidelberg society, said that he had allowed himself to be bewitched by the round pupil, but that prolapse of the iris had disenchanted him.

R. Brudenal Carter, of London, who fairly represents the disciples of the old iridectomy method says: "In fact I think those who object to iridectomy surrender their whole case when they say, as they generally do, that they would reserve the procedure for cases in which there was some unusual risk. They confess by this that iridectomy increases safety, or, as I should prefer to put it, that it increases the percentage of success; and if so, why should any patient be deprived of this advantage?"

That much dreaded occurrence, prolapse of the iris, which acts as a barrier to many minds, is very little feared by Dr. Knapp. He says in his first hundred cases of simple extraction

it occurred in twelve cases, in the second hundred it occurred in six cases, five of which were among the first fifty.

Galezoski, in his last two hundred operations, had prolapse of the iris in one case only. He thinks that the prolapse is mostly produced through premature opening of the eye by the surgeon. Since he began leaving the eye closed during the first six days, he has had no more hernia. As the matter now stands skillful operators, in selected cases, may safely do simple extraction, but when useful vision is reasonably assured, against brilliant results doubtfully anticipated, the safer plan will be to choose the method which on the whole offers the best assurance of success.

The treatment of immature cataract, having for its object the early restoration of vision, has undoubtedly made progress in the last few years.

The operation methods may be broadly divided into two classes, that which deals with the immature cataract by immediate extraction, and that which involves an artificial ripening of the lens before its removal.

Immediate extraction may be done by three different procedures:

1. After a preliminary iridectomy, a peripheral section is made in the capsule of the lens, leaving the anterior capsule as far as possible intact. To Dr. Knapp and Mr. Tweedy belongs the honor of introducing and popularizing the peripheral section.

2. A plan used by Mr. Cowper is to introduce into the anterior chamber a pair of specially constructed forceps and seize the centre of the anterior capsule, and endeavor to remove as much of it as possible.

3. A syringe and warm water is used by Dr. McKeown, of Belfast, to wash the capsule free of soft lens substance. Since adopting the intra-ocular injection in 1884, he operates for both ripe and unripe cataract in the same way. He performs iridectomy only in cases of unripe cataract.

A great deal of the fear of intra-ocular injection has disappeared in the last few years.

The second method in this class, as before mentioned, depends upon an artificial ripening of the lens, and is conducted by making an iridectomy, and following that by slight pressure or friction to the anterior lens capsule, and at some later day removing the hardened lens.

There is still a division of sentiment among oculists as to the use of the bandage in the after treatment and confinement to bed in a darkened room.

Most of those, however, who have not adopted the plaster for sealing up the eye, make the retaining apparatus as light a possible without destroying efficiency, and, as a rule, are not so particular about long confinement to bed or an absolutely darkened room, unless the comfort of the patient or the safety of the eye seems to demand it.

GLAUCOMA.

The disease of the eye now recognized as glaucoma, has in the past been surrounded with more mystery or uncertainty as to its true nature, cause, &c., than any other affection the oculist has been called upon to treat; and, as naturally follows, it has been a subject of great interest, and has given rise to much histological theorizing and clinical speculation.

The timely advent of the ophthalmoscope cleared up much that was before obscure in pathology, and contributed such aid in the revelation of the characteristic appearance of the optic disc, that together with increased tension of the globe, has rendered the diagnosis comparatively easy.

But with all our present knowledge of the structural changes, the accuracy of diagnosis, and relief or cure we anticipate from treatment, the prime or essential cause has not yet been satisfactorily accounted for. A great many theories have been advanced at different stages of the development of positive knowledge, but each has been found unequal to explain the cause in all cases.

The general physician should cultivate a knowledge of this disease sufficient for diagnostic purposes at least, for many of these cases of the acute variety fall into his hands, first, especially in rural districts, and to his surprise, seemingly trivial affections, that call for a name no more formidable than neuralgia, malaria, cold, &c., result speedily in absolute and incurable blindness.

While the different forms of glaucoma are

classed together in one group, and in the main show symptoms in common, yet it is not definitely demonstrated that they are the expression of one and the same pathological process. The principal symptoms they show in common are increased intra-ocular tension, and more or less gradual deterioration in the functions of the retina.

After recognizing increase of tension as one of the main factors in glaucoma, the next question that suggests itself is, whether that tension is due to hypersecretion or obstructed secretion of the intra-ocular fluids?

The secretion of fluids to the interior of the eye has been very clearly shown to take place from the ciliary portion of the uveal tract and to escape from the eye, principally at the angle of the anterior chamber, and a much smaller portion escaping from the papilla at the posterior part of the ball.

Leplat's experiments on the circulation of intra-ocular fluids, led to an estimation of the ratio of amounts escaping by the papilla and the anterior chamber as being 1 to 50. According to Leplat, the amount of fluid which leaves the anterior chamber of a rabbit's eye is about 20 to 25 m. grms. in five minutes.

The theory of Harris that tension was in all cases due to retention of secretions, by a primary obliteration of Fontana's spaces at the angle of the anterior chamber, was for a time satisfactory, as this obliteration had always been present in the cases of glaucoma which he had examined, and almost always found in the examinations of others. But subsequent investigations by Pagenstecher, Baily and others, developed the fact that obliteration of these spaces was not essential to the production of glaucoma, as cases were met with wherein this closure did not exist.

Priestly Smith, to whom ophthalmologists are indebted for much accurate knowledge of the pathology of glaucoma, advances the hypothesis that the primary or predisposing cause is due to "deficient circumlental space," and that obstruction of the filtration angle is due to mechanical causes, and mostly a result of the former; but that tension does not rise, or the glaucoma process actually begin until the occurrence of the latter.

He says the effect of deficiency of the circumlental space would be an encroachment upon the ciliary body by the lens, obstruction of its circulation, and a crowding forward of its anterior part against the base of the iris. The iris would move forward and obstruct the filtration angle. Again, the obliterated circumlental space would prevent the forward escape of the fluids of the vitreous, which by being blocked up would press the lens, ciliary body and iris forward, and cause the shallow aqueous chamber, which is so often present. The circumlental space, he says, may be destroyed in several ways:

1. By the advancing bulk of the lens, in advancing age.

2. The subnormal size of the globe, or ciliary zone.

3. The excessive size and prominence of the ciliary processes.

For exciting causes of glaucoma, he says we must look to the conditions which overfill the uveal tract with blood.

In regard to the inflammatory nature of acute glaucoma, Mr. Smith says: "To my mind, acute glaucoma is as much an inflammatory disease as strangulated hernia, and no more."

Mr. Smith gives some interesting conclusions as to the part played by a small cornea as an etiological factor in glaucoma, based on the measurements of a large number of glaucomatous and nonglaucomatous eyes.

In consideration of the facts, that the cornea increases little if any after the fifth year, and that the lens, so long as it remains healthy, increases in weight and volume throughout the whole of life, the idea suggested itself to him that the small mature cornea might indicate a small globe, which at some stage of lens development, would be found too small for the advancing bulk of the lens, and yet retain sufficient circumlental space.

In order to test the accuracy of the theory of the association of glaucoma and a small cornea, he resorted to a measurement of 1,000 cases of healthy eyes and 69 cases of glaucomatous eyes. A report of these measurements was made to the ophthalmological society of the United Kingdom last October, and published in the *British Medical Journal*, and results as follows:

The analysis of the 1,000 cases, including all ages, gave a general average of 11.6 millimetres, size variable in individual cases, but not often greater than 12. millimetres, nor less than 11. millimetres, number greater than 12. millimetres 34, number less than 11. millimetres 17. In the 69 cases of glaucoma the general average was 11.27 millimetres, maximum 12. millimetres, minimum 10. millimetres. The number less than 11. millimetres in the glaucoma list of 69 was 34, or 26 per cent. The number less than 11. millimetres in the 1,000 cases was 17. millimetres, or 4 per cent. In the 1,000 cases there was not one cornea so small as 10. millimetres, while there were 9 such in the much smaller glaucoma group.

Brugsch, in Knapp's *Archives* for 1889, gives as his opinion that small eyes are much more predisposed to glaucoma than larger ones. He thinks the predisposition of Egyptians to glaucoma (being 4 per cent., whereas in Europe it is 1 per cent.) is due to their small eyes, particularly marked in the cornea.

According to Priestly Smith, then, the order of occurrence is, first, the choking of the circumlental space, obliteration of passage for vitreous fluids forward, pressure upon and a crowding forward of the anterior part of the ciliary body against the base of the iris, and a secondary blocking of the filtration angle.

(Concluded in September Number.)

Rhino-Pharyngeal Disease and Some of its Reflexes.

Read before the Academy of Medicine and Surgery, Topeka, Kansas, May 20, 1890.

BY W. E. M'VEY, M. D., TOPEKA, KANSAS.

In the recent works on diseases of the nose and throat, I find some points in anatomical description which I think it well to present. That cavity lying immediately behind the posterior nares, and limited above by the basilar process of the occipital bone and the posterior part of the body of the spenhoid, which forms its roof, and extending downwards as far as the border of the palate has been called the naso-pharynx. The posterior wall is formed by the spinal column, the prominence of the arch of the atlas being often recognized at about the point where the vertex of the palatal arch, in contraction, impinges upon the posterior wall. From this point upwards the wall curves forward.

The anterior boundary is formed by the two oval openings of the posterior nares, and the posterior border of the vomer or septum. Each lateral wall of this space is marked by the funnel-shaped orifice of the Eustachian tube with its surrounding cartilaginous ridge, and by the folds formed by the reflection of the mucous membrane over the anterior and posterior borders of this cartilaginous eminence, termed respectively plica-salpingo palatinæ and plica-slapingo pharyngæ. The cavity of the upper pharynx differs greatly in different individuals. Its approximate measurement, however, would be in the vertical and antero-posterior lines three-fourths of one inch, and in width about one and three-eighths inches. Attached to the basilar process and petrous portion of the temporal bone is a thick aponeurosis of fibrous basement membrane, beneath which lie certain muscular structures involved in the movements and support of the head. The mucous membrane lining it does not differ particularly from that of the respiratory tract. It is richly endowed with both the tubular and racemose varieties of mucous glands, and its epithelial surface is covered with columnar ciliated epithelium.

Situated in the upper and central portion of the cavity, we find an aggregation of glands known as the pharyngeal tonsil, or Luschka's tonsil, and it is this which gives to this part of the pharynx an especial interest for us. As described by Luschka it is a soft mass of tissue of about a quarter of an inch in thickness, spread over the roof and posterior wall of the naso-pharynx, covering the whole extent of the basilar process of the occipital bone, and extends the whole width of the pharynx.

The most constant appearance of this body is that in which the mass is traversed, longitudinally, by a series of fissures or indentations of about a quarter of an inch in depth, with a slight disposition to branch, giving rise to a sort of crow's foot appearance. The gross appearance of this mass of glands varies somewhat, however, and presents occasionally a

soft cushion-like outline covered with small rounded elevations, or is traversed by fissures in various directions. Luschka describes an opening about as large as a pin head in the lower portion of the tonsil which leads into a small sac, to which he gave the name bursa-pharyngæ.

There is much difference of opinion as to the existence of such an anatomical structure in the normal state, and is probably better explained by Ganghofner as the adventitious result of certain morbid conditions of the glands in this region.

The nerve supply of the pharynx is derived principally from the second division of the fifth pair, together with branches from the glosso-pharyngeal and vagus. We find the pharyngeal branches of the glosso-pharyngeal forming a plexus, supplemented by filiments derived from the pneumogastric, spinal accessory, external laryngeal and sympathetic.

The glosso-pharyngeal receiving communications from the facial, pneumogastric and sympathetic, becomes a compound nerve, composed of both motor and sensory filiments. The pneumogastric, which is also a mixed nerve, supplies branches to the pharynx and also to the larynx, the pharyngeal branch given off from the ganglion of the trunk, divides into branches and unites with the filiments of the glosso-pharyngeal to form the pharyngeal plexus.

With a nerve supply derived from the facial, glosso-pharyngeal and pneumogastric with numerous communicating branches from each of these and from the sympathetic, the pharynx becomes of the utmost importance to us in our study of the reflex element of disease.

In the disease known as naso-pharyngeal catarrh, or, as I think, more properly named by Robinson, " Follicular disease of the naso-pharynx," we may have either of two quite distinct morbid conditions. We may have a chronic inflammatory process of the glandular structure with active cell proliferation, and as a resulting condition a true hypertrophy. On the other hand we may have an extreme cell proliferation, many of the cells being thrown off, forming with the excessive mucous secretion a muco-purulent discharge. Many causes of this disease are advanced by the various writers. Bosworth thinks that in many cases it can be attributed to an hypertrophied pharyngeal tonsil acquired during childhood, as the result of some exanthematous diseases, but considers disease of the nasal passages proper as the most potent of all causes.

Beverly Robinson finds in the diathesis of syphilis, scrofula and tuberculosis, and in a general constitutional tendency to catarrhal disease which he has termed the catarrhal diathesis, the most prominent factors in producing naso-pharyngeal troubles. From our own experience we would be unable to say that either Bosworth or Robinson were exclusively, correct, but should rather think that something of each were true. We undoubtedly do find such a condition as that termed by Robinson a catarrhal diathesis and in these persons there is usually a nervous irritability, a tendency to the development of a variety of neuroses. This catarrhal neurotic tendency is sometimes manifested by transitory eruptions upon the skin, the result of the injestion of some irritating or indigestible substance. In naso-pharyngeal disease we sometimes find the mucous membrane of the vault of the pharynx in a state of congestion, the congested masses looking red and angry. In the passive stages of the disease, when not excited by recent exposure to cold or contact with irritating substances, we will find more often the thickened masses presenting a greyish, soggy appearance, with the fissures considerably deepened and filled with a muco-purulent discharge, which exudes upon the surface of the membrane, adding much to its greyish appearance. The profuse discharge, mucous or muco-purulent in character, either from lack of the usual watery exudation or from its absorption by the inspired air, becomes thick and tenacious, adhering tightly to the mucous membrane. This adherent mass of muco-pus acting as a foreign body, excites the patient to frequent and violent efforts for its removal; this being accomplished, the membrane is left in a congested and irritable condition for receiving the next accumulation. This process being frequently repeated, the membrane becomes hypersensitive, and the presence of mu-

cous, dust or even air is a source of irritation not only to the mucous membrane of the naso-pharynx but by reflex sensibility to the lower pharynx, to the larynx and respiratory tract. We often find in these cases a spasmodic, irritative cough, excited by the slightest contact with an atmosphere containing any irritating properties, so distinct in its character that you would at once recognize its nervous element.

The usual involvement of the larynx and respiratory tract in naso-pharyngeal disease has been recognized by most writers on this subject but has been attributed to various causes.

Bosworth, in carrying out his idea of the nasal cavities being the primary source of trouble, attributes it to the habitual mouth breathing of the comparatively dry air. But as we find the same irritation where mouth breathing is not habitual, we are hardly inclined to accept his explanation. By many it is stated that the secretions passing down the pharynx and into the larynx sets up a low grade of inflammatory trouble there. It seems very improbable to us that this occurs. The secretions passing down are either involuntarily swallowed or pass into the œsophagus. The catarrhal diathesis may explain the existence of a mild catarrh in the upper air passages in some cases, but we believe a more prominent factor in its development, is the frequent spasmodic cough caused by reflex irritation, keeping the larynx in a state of excessive activity and consequent congestion. I have frequently had patients complain of something accumulating and sticking in the larynx, at which they were constantly hacking in their efforts for its removal, but with no apparent success. An examination reveals the larynx considerably reddened, but no accumulation or extensive morbid condition.

Some months ago a patient came to me with a cough of about two year's standing, with periods of comparative relief and exacerbation. Upon examination I found considerable deviation of the septum nasi to the right with some hypertrophy of the turbinates on both sides and in the vault of the pharynx a lobular looking mass of a greyish appearance at first, but of a deep red color upon removal of the thick secretion which had accumulated and was very tenacious in character, requiring the use of a brush. Thinking the nasal trouble of primary importance I began the treatment there, using cocaine to reduce the irritability and to see what effect it might have upon the cough. There was no apparent benefit as far as the cough was concerned. My attention had already been called to the feeling of something in the larynx which was found only slightly reddened upon examination. Still believing the cough to be due to reflex irritation, I began to investigate the influence of the naso-pharyngeal trouble. After cleansing the membrane as well as possible with a spray, I introduced a camel's hair brush for the purpose of removing some adherent mucous and immediately she was seized with a violent fit of coughing and complained at my putting the brush down into her throat. After a thorough cleansing, we applied with the brush, tincture iodine. This treatment was repeated several times at intervals of one or two days, with the satisfaction of seeing a constant and marked improvement. The treatment was suddenly interrupted, but I afterwards learned that for two weeks after this treatment there was entire relief from the cough, when from exposure, a severe cold was contracted and the trouble renewed. I am inclined to think that this feeling of something in the throat is not a result of a direct irritation of the larynx but is a reflex sensation from the presence of the adherent mass of muco-pus upon the irritable and hypersensitive membrane of the naso-pharynx. That there are other reflex troubles growing out of this disease, we have strong reasons to believe.

There is little doubt that in many cases of asthma, naso-pharyngeal disease is a prominent factor, if not a causative element.

There is some difficulty both in the diagnosis and treatment of this disease, and is consequently often neglected. The reflected light and throat mirror will usually reveal its presence, but if such an examination cannot be made, the finger introduced into the pharyngeal vault may find the trouble.

For treatment—cleansing applications and the use of astringents with spray or brush.

but probably better than these is the application two or three times a week of tincture of iodine, followed by mild washes or sprays of vaseline. If there be much hypertrophy, removal with the forceps or galvano-cautery should be accomplished and followed by such after treatment as the condition would indicate. By the use of cocaine, surgical operations in this region are much simplified. It may be applied with a spray or brush, or, if immediate and certain anæsthesia is desired, may be introduced by means of a hypodermic needle mounted on a curved shank so that the part can be easily reached.

Where the patient can not be seen regularly, a cleansing solution of

R. Sodii bicarbonatis.....ʒ ss.
Sodii Boratis.....ʒ ss.
Listerine.....ʒ i.
Glycerine.....ʒ i.
Aquæ.....ad. ʒ iv.

thrown into the pharyngeal vault by means of an atomizer will often, by keeping the membrane clean, afford much relief from the troublesome symptoms.

Another solution which is antiseptic and astringent in properties, and one from which I have obtained excellent results, is that of G. M. Lefferts, and is composed of

R Iodini cryst.....grs. jv.
Potass. iodid.....grs. iv.
Zinci iodid.....ϑ i.
Zinci sulpho-carbolatis.....ϑ i.
Listerine .....ʒ i,
Aquæ.....ad. ʒ iv.

This may be used in an ordinary atomizer, but should, I think, usually be somewhat diluted.

When it is possible to have it so, a regular and systematic course of treatment will be much more satisfactory to yourself and patient. Having your patient come to you two or three times a week, carefully cleansing the membrane each time before applying your remedies and carefully adjusting these to suit the requirements of each individual case, you will find you are able to do much for the relief of this class of sufferers.

IN the past fourteen months typhoid fever has cost Chicago $2,143,800.

Some Uses of Acetanilid and Antipyrin.

Read before the Central Branch Medical Association, June 5, 1890, at Greenleaf, Kas.

BY H. REDING, M. D., OF VERMILLION.

If we can always keep ourselves and our patients cool and comfortable, life will be worth living, and our success as practitioners assured.

Modern chemistry, that indefatigable forager in the fields of nature, has added much to our *Armamentum Medicatum.*

Among the multitude of gifts for which we have to thank her, means for combating fever and pain claim our warmest appreciation.

Specifics do not abound, and much of our treatment is yet, and must be symptomatic.

Among new remedies, designed to meet symptomatic indications, *antipyrin* and *acetanilid* have for some time—the former about five years, the latter a shorter period—received much attention from the profession. I do not apply to acetanilid the trade-marked name "antefebrin," under which it was introduced, and I am inclined to apologize for speaking of antipyrin, but I can find no other name suiting me better. The clinical name phenyl-dimethyl—pyrazolon according to professor Sadtler, or dimethyl-oxyquinizine after other authorities, is calculated to produce luxation of the maxilla in one unversed in chemical lore. "Methozni," an unwarranted contraction of its chemical name, and "analgesine" under which it is manufactured and sold in France, are not supported by sufficient authority to warrant their adoption.

I wish to protest against the burden which is laid upon us by the patentee of antipyrin, and urge my brethren to do all in their power by agitation and influence with our legislators to lift this and like burdens from our shoulders and pocket-books; and also, as far as may be done with satisfaction, to substitute for it in prescribing, cheaper, unpatented remedies.

Antipyrin and antifebrin stand on different bases relative to their protection by patent. The patentees of the former have secured to themselves complete protection by covering not only the name, but also the product itself

through its process of manufacture, while the name antifebrin is simply trade-marked. Hence acetanilid, a product identical in chemical composition and therapeutical application with antifebrin can and should be used.

Any product claiming to be identical with antipyrin is an infringement on the rights secured by patent.

In considering these two remedies I regard acetanilid as pre-eminently the superior in its antipyretic action. My experience confirms the testimony for other obsevers that its powers in this regard are much surer, sooner realized and more enduring, while unpleasant depressing effects are far less commonly met with. As a rule, when given in doses of five grains, during, or at the height of an exacerbation of temperature, defervescence begins in from twenty minutes to one-half hour with some flushing of the skin and perspiration, amounts to two or three degrees F., continues three to six or eight hours, and the return of elevated temperature is rarely (never in my experience) attended by marked rigor. My experience with acetanilid as an analgesic solely is very limited, but from the testimony of others it seems to promise well in this field. I hope to be able to convince myself that it can entirely supercede the more expensive, patented remedy, antipyrin.

In continued fevers, typhoid, our Kansas malarial and typho-malarial, etc., I believe antipyretics of this class will find a very limited use. The profession seems to be agreed as to the futility of attempting to abridge the course of these maladies by their use. And while in properly selected cases, their occasional symptomatic employment may be advisable, I believe their continued, routine administration, like that of all other remedies of a depressing character, will be found to be deleterious.

It is in the exanthemata, transitory fevers of childhood, etc., characterized by intense elevation of temperature of short duration, that acetanilid finds its greatest field of usefulness. In a recent measles epidemic I often had occasion to bless its discoverer. The pungent fever, headache and great bodily discomfort which precedes and accompanies the appearance of the rash in rubeola are in a great measure relieved by full doses of the acetanilid. The eruption too appears freely after its use, hence it seems to fulfill the indication so important with the laity for something to bring out the rash. I recall one case in which its virtues particularly impressed themselves upon me: Was called to see John W, aged 18, found him in the fifth day of an attack of measles. He had had two violent convulsions and others seemed imminent. Temperature 105°, pulse 120, headache intense, skin hot and pungent, and rash barely perceptible on forehead only. I administered 30 grains bromide potas., following it with 5 grains acetanilid. In an hour his temperature had fallen to 102°, skin was moist, headache had ceased and he was altogether comfortable. I ordered the acetanilid to be repeated when discomfort from fever returned. The rash speedily appeared in abundance, the convulsions were never repeated and he made an entirely satisfactory recovery.

In mumps, both in the primary disease and the metastases, acetanilid gives equally good results. I have met only a few mild cases of scarlet fever since I began the systematic use of this remedy, but the results in these were equally satisfactory with those noted above, and unless there existed some special contra-indication I should use it to combat the high temperature of severe forms of this disease.

In pneumonia I use acetanilid cautiously in sthenic forms during the early stages of the disease, substituting it for aconite and similar remedies. Indeed in nearly all febrile disorders I regard acetanilid as a most satisfactory substitute for aconite, accomplishing all we can hope from the latter, more speedily and with greater comparative safety.

In the ephemeral fevers of young children, with or without convulsions, little else is needed save the remedy under consideration. A little calomel to remove intestinal irritation and acetanilid to combat the chief apparent symptom, high temperature, is about all that is needed.

These illustrations are given simply to show the class of cases in which, in my opinion, the antipyretic powers of acetanilid are most valuable.

For antipyretic effect acetanilid may be ad-

ministered alone in powders or capsules of 3 to 5 grains each, or perhaps preferably in some alcoholic solution. If possible I give it under my own personal observation and repeat only as required by thermometric indication or discomfort arising from returning fever, but rarely oftener than once in four hours.

Regarding the hypnotic and sedative effects of large doses of acetanilid mentioned by writers in recent journals, I cannot speak from observation. If any gentleman present has tested these claims will he kindly give us the result of his experience?

Antipyrin I have regarded as the analgesic *par excellence* in many painful affections. In our recent experience with "La Grippe," I doubt not we all tested and appreciated its efficiency in relieving the omnipresent pains of this famous globe-trotter. Two or three doses of twenty grains each, administered with ½ grain of morphine and a little whisky was often sufficient to relieve the headache, backache, etc,, during the whole course of ordinarily mild cases. In dysmenorrhœa of nearly all the common forms, particularly the congestive type from which girls and young women so frequently suffer, antipyrin is the best means of relief I have ever employed. I commonly prescribe a powder of fifteen grains of antipyrin with ½ grain of morphiæ, one powder often sufficing for each menstrual epoch. Given as soon as pain is felt it ordinarly quite averts the customary suffering and the period is passed in comfort.

I suppose we have all had the satisfaction of seeing headaches melt away as by magic, under the influence of this remedy. Out of many score of cases, arising from a variety of causes, in which I have used it, I now recall but four which entirely resisted its influence. In treating facial and supra-orbital neuralgia of a periodical type, I have had good success in many cases by giving O O capsule (about 8 grains) of antipyrin with ⅛ to ½ grain of morphiæ when the pain is first felt, repeating in one or two hours if necessary, giving at the same time two or three large doses of quinine each day.

In acute rheumatism I have never relied on antipyrin alone to effect a cure, but have used it with great satisfaction to relieve pain while bringing the system under the influence of the salycilates. In this case as in others it is best combined with a small quantity of morphia which acts as a synergist in relieving pain at the same time, by its stimulant action, antagonizing the depressing effect of antipyrin. It is also given with advantage in alcoholic solutions. Since adopting these precautions I have never encountered the alarming depression seen occasionally when antipyrin is administered alone.

I have recently attempted to relieve the paroxysm of neuralgia of the stomach by the use of antipyrin. Some relief was afforded but the results were by no means equal to those obtained by the hypodermatic use of morphia and atropia. When morphia is not well borne antipyrin injected into the tissues would doubtless give good results. I have used it in this manner in headaches with very irritable stomach, with satisfaction. In pertussis my experience with antipyrin is very limited and the results negative. What has been the experience of the gentlemen present in the matter?

SOCIETY PROCEEDINGS.

Topeka Academy of Medicine and Surgery.

The Topeka Academy of Medicine and Surgery met in regular monthly session at Lincoln post hall Tuesday evening, July 1. The president and vice president being absent Dr. C. A. McGuire was elected president for the evening. Present, Drs. Sheldon, Lindsay, Williamson, Donaldson, W. E. McVey, Magee, Minney, Stewart, Mitchell, Pelton, Plummer, Rodgers, R. E. McVey, Green, members, and Drs. H. W. and G. O. Morgridge visitors.

Dr. C. C. Green read a paper on "The Causes, Prevention and Management of the Summer Diarrhœa of Infants," and exhibited an Arnold's sterilizer with some samples of milk that had been sterilized by this apparatus, explaining the process. [See page 591 for article and discussion.]

Dr. W. E. McVey opened the discussion on "The Relation of the Druggist to the Physician," giving a brief account of the habits of the druggists in regard to counter prescribing,

refilling prescriptions, giving commissions to physicians, &c., and offered the following resolutions, which, after a thorough discussion, were adopted and ordered printed in the KANSAS MEDICAL JOURNAL.

Resolved, That it is the sense of this body, that we do fully appreciate and highly commend the energy and ability displayed by the druggist in general in bringing the standard of pharmaceutical preparations to this high point of excellence. That with this present high position in the scientific and professional world, as pharmacists, the assumption by them, of the duty of the physician in the way of general prescribing is in contrast with this position and unjust to the patient and physician. Be it further

Resolved, That since many unfortunate mistakes do occur from the frequent misfilling of prescriptions that we use every means in our power to prevent the refilling by the druggist of any prescription except by order of the physician. That any discrimination, in the charge for compounding medicine, against the physician's prescription as distinguished from the non-profession, or the receipt of the laity, the same skill being required, is injurious to the physician, unjust to the patron and indirectly if not directly detrimental to the business of the druggist. That the practice of receiving compensation in the way of commission or per centage upon prescriptions filed, is unprofessional, dishonest and unjust to the patron, tending eventually to work harm to the physician himself.

Adjourned to meet the first Tuesday evening in August. D. F. RODGERS, M. D.,
Secretary.

Eastern Kansas Medical Society.

The regular quarterly meeting of the Eastern Kansas Medical Society was held at Leavenworth, July 8, 1890.

An afternoon session was held at the Soldiers' Home Hospital at 2 o'clock. In the absence of the president and vice president, the secretary, Dr. Bidwell, called the meeting to order, and Dr. J. F. McGill was elected secretary pro tem.

The calling of the roll and reading of minutes was dispensed with, and reports of officers received.

The secretary reported a bill of $5.50 for programs and postage which was allowed and an order drawn on the treasurer for the amount.

The privilege of the floor was extended to the visiting brethren.

Dr. McNary then described two cases of aneurism of the aorta, and five cases of locomotor ataxia which had been treated by suspension, presenting the cases for examination.

Incidentally the doctor remarked that he almost always found the cases suffering to a greater or less degree with dyspepsia.

Dr. McNary did not know what caused the improvement in these cases, but Dr. Minney suggested that it might be due to tissue changes, taking place in the cord, due to massage.

The visitors were then shown through the wards of the hospital by Drs. McNary and McGill, after which the society adjourned till evening.

EVENING SESSION.

The evening meeting was called to order in the parlors of the National Hotel, by President M. B. Ward.

Dr. McClintock's paper on "Trephining for Imbecility and Epilepsy," was read by the secretary.

Dr. Reynolds, in opening the discussion, advised great caution in not overlooking any spiculæ of bone that might be concealed beyond the edge of the trephine opening. He then exhibited the specimen he had removed from a case of this nature, and also one from a boy in whom the vertical plate of the ethmoid protruded three-fourths of an inch into the brain tissue as the result of a kick in the face by a horse.

There was about eight ounces of sero-purulent fluid in the skull, on post-mortem.

Obstinate constipation and incontinence of urine were marked symptoms in the case.

Dr. Walker reported the case of a young man trephined in two places for relief of epileptic seizures dating back to an injury to the skull when four years old.

The buttons were replaced under antiseptic precaution by means of catgut ligatures. The buttons were firmly fixed in place in three weeks, and one year later no epileptic fits had occurred.

Drs. Haight, Minney and Ward objected to replacing the buttons, as they might cause the trouble they were designed to remove by act-

ing as foreign bodies or tissue forming over them might press them upon the brain.

Dr. McNary.—Had had a case of right parietal bone necrosis where, a year after trephining, cartilagenous growth filled the opening. There was a specific history. Three inches in diameter was filled in as shown by subsequent autopsy.

Dr. Minney thought true bony formation was the rule in these cases. He did not think it necessary to preserve the periosteum.

Dr. Reynolds stated that in his case replacement would have been impossible, owing to the depression of the surrounding tissues.

Dr. Wall read a paper on "Ophthalmia Neoratorum."

Dr. Cullamore opened the discussion. He approved of methods of prophyloxia except that it might be meddlesome to treat all such cases in the severe method suggested. In treatment he found a two per cent. solution of silver nitrate was best. When chemosis was great, canthotomy was occasionally demanded. He would not allow any of the nitrate to touch the cornea, and in dangerous cases would apply the nitrate twice in twenty-four hours.

Dr. Minney said his piece. Formerly held the opinion that these cases were all from gonorrhœa, but had changed his mind and now believed that many cases were from ordinary non-specific vaginitis. Had reduced strength of silver from 40 to 5 grains to the ounce, and thought the results were equally as good. Would not drop it in every eye, but only in those of suspected cases. He did not favor the use of wet cloths on the eye except with intelligent, careful nurses, owing to the danger of poulticing.

Dr. J. H. Van Eman preferred two and a half grains to the ounce.

Dr. W. J. Van Eman read a paper on "Pests and Nuisances."

Dr Minney mentioned another nuisance that had caused him much anxiety, and that was self. Self was the dog in the manger, the lion in the way. Another nuisance is the consulting physician who tells one story at the bedside and another afterward.

Dr. Lane thought that physicians were more apt to be led by the nose by book agents and patent medicine agents than any other class of men.

Dr. Morton referred to the degeneracy of pharmacy brought about by proprietary pharmacy. He advised the use of the National Formulary as gotten up and recommended by the druggists.

Dr. Reynolds spoke of the peddling of R's by patients as well as physicians,

Dr. Terwilliger reported the case of a lady of 21 in her second confinement. The pains ceased. A few hours later she had severe pains in the head, and a few hours later a healthy male child was born. The following morning she was unconscious, frothing at the mouth and rigid. After chloroform she recovered perfectly except the pain in the head. She was given morphine hypodermically, and later, piscidium (Jamaica dogwood.) She slept an hour or so and woke up feeling perfectly well.

Two or three convulsions occurred before the doctor arrived.

Dr. Lane said he would call it uræmic poisoning.

Dr. Lane reported two cases of paramyoclonus multiplex.

Dr. W. J. Van Eman asked where the line would be drawn between paramoclonus and hysteria.

Dr. Lane described paramyoclonus but considered hysteria too extensive a subject to enter upon.

Dr. Morton spoke of the effect of hypnotism upon spasms especially in cases of chorea, as he thought some benefit might have been produced by hypnotism.

Dr. Moaton, of St. Joe, read a paper on "Cocaine in Genito-urinary surgery."

Dr. Cullamore advised the use of trocar to relieve the bladder as well as the methods already mentioned, also that of electricity.

Dr. Bidwell mentioned the hypnotic effect of removing a catheter from penis at the same time that a strain to pass water is made.

Dr. J. H. Van Eman spoke of using cocaine on the lacerated cervix in three cases, 20 grains to the ounce, in which marked depression followed, and he considered chloroform or ether as safe as cocaine, and he found the hemorrhage, when using cocaine, no less than in other cases.

Dr. Wall spoke of a case in which two and a half grains in the ear caused such depression that life was in danger for 24 hours.

Dr. Minney has less trouble with cocaine now than formerly, and when dryness of the throat is complained of, he has a gargle used and has patients avoid swallowing. He thought the idiosyncrasy of certain persons should be looked out for.

Dr. Lowe thought oleaginous solutions of cocaine were useless.

Dr. Bidwell advocated the use of four grains of cocaine to the ounce of vaseline as a lubricant for sounds.

Dr. McNary advised the use of 4 per cent. preparations in preference to 8 per cent. or anything stronger.

Dr. Morton stated that the use of cocaine obviated the chill in all cases of sound passage.

Dr. Reynolds had had trouble with the use of oleaginous preparations.

After partaking of a light lunch suitable to the late hour, the society adjourned to meet in Topeka the second Tuesday in October.

The following physicians attended one or both of the sessions:

Drs. Minney, Ward and Wall of Topeka, Phillips and Walker of Lawrence, Gray of Wyandotte, Reynolds of Horton, Haigh of Grenada, Terwilliger of Lansing, Van Tuyl of Fairmount, Gladman of Tonganoxie, Cullamore of Atchison, D. Morton of St. Joe, J. H. Van Eman of Kansas City, McNary and McGill of the Soldiers' Home and Van Eman, Callahan, Walters, Lane, D. W. and M. S. Thomas, Moates and Bidwell of Leavenworth.

W. D. BIDWELL, M. D.,
Secretary.

The Golden Belt District Medical Society

The Golden Belt District Medical Society of Kansas, met in regular quarterly session in the City Council Chamber at Junction City, Kas., on July 3, 1890, Dr. P. Daugherty, president in the chair.

On the roll call the following members were present: Drs. Daugherty, Browne, W. A. Harvey, Gunn, Murphy, Dewees, Steadman, Geo. E. Harvey, Boyce, Hays and Guibor.

The minutes of the previous meeting were read and approved.

The president announced the following standing committees for the ensuing year:

Committee on elections—Drs. Guibor, Gunn and Boyce.

Committee on ethics—Drs. G. E. Harvey, Murphy and Pelty.

Committee on publication—Drs. Browne, Hazlett and Hartman.

Executive Committee—Drs. Browne, Dewees and Gunn.

The application for membership of J. A. Whiting and Andrew Pearson of Milford, Ks., G. A. Wall, of Topeka, R. S. Magee and L. R. King of Junction City, being referred to committee on elections were reported on favorably and the secretary instructed to cast the ballot of the society. Eleven votes.

Motion to change No. 11 in general order of business, now reading "adjournment" making it to read, thus, "opportunity is offered for volunteer papers, reports of cases, etc.," and making adjournment No. 13. Carried.

The secretary read a transmitted report from the secretary of the Kansas State Medical Society, relative to the action of recognition of the Golden Belt District society by the Kansas State Medical Society at its last meeting in Salina.

Dr. Dewees read a paper on "The Vaginal Tampon and its Uses." The subject was ably handled and discussed under the following heads:

First—How and of what material to make the vaginal tampon? Answer, antiseptic sheep's wool.

Second—How to introduce the vaginal tampon? Answer, lithotomy position, separating the vulvar opening with the fingers of one hand, while with the other introduce the tampon, the long axis of the tampon corresponding to the long axis of the vagina.

Third—The use of the tampon in certain uterine hemorrhages? Answer, although authors say that in hemorrhage in abortion you may tampon up to the fourth month, yet I never tampon in such hemorrhage after the third month. The amount of hemorrhage must govern you as to the extent to which the vagina should be packed.

Fourth—The use of the vaginal tampon in certain uterine disorders of position and for compression and support in certain effects following pelvic inflammations. Answer, in the correction of versions or flexions, special care must be observed in packing the vagina, that the pressure or support shall be equal in all directions.

Motion by Dr. Guibor that the discussion of papers be deferred till the evening session, and that we hear read all papers first, and discuss them later, as time allowed. Receiving a second and carried.

A child thirteen months old was brought in and a committee appointed for examination. Reported that it was a case of tabes mesenterica.

Dr. Murphy read a paper on "Cholera Infantum," and it was referred to the committee on publication.

A communication was read by Dr. Dewees from Dr. R. J. Dunglison of Philadelphia, Pa., urging our members to become members of the American Medical Association, and the communication was filed with the secretary.

The secretary read a telegram from Dr. Daniel Morton, of St. Joseph, Mo., expressing the regret in not being able to attend our meeting.

The society then took a recess, and was given a ride by the local physicians to Fort Riley, to view the beauty and grandeur of this government post. We are proud, as Kansans of such a post, so pleasantly and beautifully located, The evening was cool, the carriages excellent, and as we rode admiring the sights, it seemed to us an oasis in the pathway of life. When we reached the city again a supper was awaiting us, and right royally were we banquetted, and we want to say right here that the Junction City physicians know how to entertain their visiting brethren.

EVENING SESSION.

The selection of place of next meeting came up, and on motion of Dr. W. S. Harvey, a committee of three were appointed to correspond and select a place and report to secretary. Drs. W. S. Harvey, Murphy and L. R. King were appointed committee.

Dr. C. W. Adams of Kansas City, Mo., being present, was unanimously elected to honorary membership on motion of Dr. Dewees.

Dr. Steadman read a paper on a case of obstetrics viz., "Right Occipito-Posterior Presentation." After being discussed by Drs. Adams, Dewees, W. S. Harvey and Daugherty, it was referred to the committee on publication.

Dr. G. A. Wall of Topeka, gave the society a volunteer paper on "Some Nervous Phenomena Depending on Faulty Action of the Ocular Muscles and their Treatment," and illustrated it by original drawings and phorometer. After discussion by Dr. Magee, it was referred to the committee on publication.

Dr. Guibor requested Dr. Dewees to read his essay again, inasmuch as Dr. Adams was not present in the afternoon, but had expressed a desire to hear it, as he is interested in that special work. Dr. Dewees willingly responded and Dr. Adams discussed it at length in a very interesting manner, as did also Dr. Guibor and Dr. McClintock.

Motion by Dr. Dewees that the KANSAS MEDICAL JOURNAL be made the official organ of this society was carried.

The executive committee then made its report as follows: Drs. C. H. Guibor, F. B. Browne, J. T. Ketcherseil, J. A. Whiting, Ed D. Hazlett and J. C. McClintock, to read papers on subjects of their own desiring.

Subject for general discussion is malarial affection, opened by Dr. Daugherty.

Dr. Guibor in behalf of the visiting members tendered a vote of thanks to the Junction City members for their courtesy and hospitality.

After a few humorous anecdotes the society adjourned.

F. B. BROWNE,
Secretary.

"AM pleased to report concerning Ponca Compound that its value is not confined to the pelvic diseases, which you properly mention, but it is a superior nervine tonic, excelled for exhausted brain workers and very valuable for the sexual organs of the male as well as the female, as a general restorative. At the same time its influence upon all the abdominal viscera including the liver is very beneficial. The more it is used, the more it will be appreciated." J. R. BUCHANAN, M. D.,
No. 6 James St., Boston, Mass.

Kansas Medical Journal.

PUBLISHED MONTHLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per Annum, in advance.....$2 00
Single Copies.....25 Cents.

Subscription may begin at any time. The safest mode of remitttance is by bank check or postal money order drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED LETTER. Address

Kansas Medical Journal,
723 Kansas Avenue.

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TOPEKA, KANSAS, AUGUST, 1890.

Some Therapeutic Uses of Buttermilk.

This is the title of a paper by Stanley M. Ward, M. D., of Scranton, Pa., in the June number of the *Therapeutic Gazette*. He relates a case of Bright's Disease reported by Dr. Henry D. White, in which no alleviation was brought about by the ordinary remedies. The patient finally by her own solicitation, was given buttermilk, the use of which was followed by the happiest results.

Another case is related in which on several occasions the urine under heat and acid was almost solid in the test tube. The ordinary drugs failed to give any relief. The patient began taking buttermilk, two quarts a day. Its effect being markedly favorable, the quantity was increased, and from this time the chief reliance was put on this agent and the patient finally used from six to eight gallons a week.

Diminution in the quantity of urine passed, constipation and headache followed invariably if the supply of buttermilk became exhausted; and, finally, an examination of the urine, made one year and nine months after the first observation, the patient during a great part of this time having been engaged in his usual avocation, revealed the fact that minute quantities of albumen were still present.

He speaks of its use in stomach affections, the principal symptoms being eructations and vomiting. In cholera infantum the stomach may often be quieted by interdicting everything else and using a few drops of fresh ice-cold buttermilk at intervals, ranging in length according to the severity of the case.

We have used buttermilk in our practice since the fall of 1881, as a therapeutic agent, food or drink we hardly know which. When an acid was craved by the patient and lemons were not on hand, fresh cool buttermilk was ordered with the instruction to begin with a tablespoonful, in case of an adult, every hour and gradually increase the quantity to a gill every two or three hours, unless some untoward symptoms developed, such as nausea, colicky pains, diarrhœa, &c. In the autumn of '81, we had a typnoid fever patient who could retain neither food nor medicine. (Typho-malarial?) It was the second week of his sickness, there was rather severe bowel complication with hemorrhage, irritable stomach and he was in a semi-comatose condition. When aroused he would call for buttermilk. It was the twelfth day of his sickness and death seemed inevitable unless something could be done to quiet the irritable stomach, nourish the patient and satisfy the craving (and as we thought abnormal,) appetite. Sweet milk, pure, and prepared in various ways, together with various foods, and slops, (beef tea, &c.,) had been tried and were repulsive to the patient before and after taking—disagreed with him. In our extremity we directed that a tablespoontul of buttermilk be given every fifteen minutes until we called again in an hour At the expiration of that time no unfavorable symptoms having developed the quantity of milk was quadrupled and given every half-hour until another call was made in four hours. At this visit the patient was much refreshed, rested better and there was less of the low muttering delerium. During the after-part of the night the nurse on watch went to sleep and the buttermilk in the quart cup, was left in reach of the patient and he took advantage of the occasion and drank what remained, fully one pint at once with good re-

sults. The amount was gradually increased and the fifth day after he began the use of the buttermilk he drank one gallon, and continued to drink a gallon a day for the next ten days. While he gained but little if any weight, he was much better every other way. Owing to the excessive work put upon the kidneys and lack of nourishment in the buttermilk a few tablespoonfuls of cream was added on the fifth day with a view of decreasing the quantity of fluid and increasing its nutritive value.

Four tablespoonfuls of cream mixed with one quart of buttermilk and the milk given as before, produced nausea and anorexia. The cream was withheld and the buttermilk by the next day was relished and agreed with the patient. After a number of days one, and then two tablespoonfuls of cream were added to the buttermilk and it was tolerated, finally one-half pint a day was given and the quantity of buttermilk was reduced to one half gallon a day. He relied upon this fluid food for about six weeks until complete recovery, although he was tempted with and given food of various kinds, he retained a relish for buttermilk.

The buttermilk craze is on, and while the physician must not loose his head, it is a safe rule to utilize agents within the reach of all, both as a food and a medicine when they meet the indications, and never despise the day of small things, and the use common of things.

Gun-Shot Wound of the Intestines.

Was called at 3 a. m. June 23, 1890, to see a tramp about 32 years of age, sanguine temperament, well developed and in good health, who had been shot two hours before while burglarizing the house of a citizen. Countenance anxious, pulse small and frequent, and breathing labored. After receiving the wound he ran a square and a half and fell, saying he was "done for." Found a bullet hole three inches to the right and a little below the umbilicus. Gave him a drink of whisky and a grain of morphine, and decided upon an exploratory incision to ascertain what injury the ball had done and make such repair the case permitted. Sent for Drs. Heller, Brown and Artz, who concurred in the decision. The abdomen was washed with a 1-1000 solution of bi-chloride of Mercury, shaved and at daylight the patient was given chloroform and ether equal parts. Assisted by the physicians named I enlarged the wound by making an obtuse angle toward the pubic symphysis and the ensiform cartilage, thus avoiding the epigastric and circumflex arteries, and found the ball had gone slightly downward and to the right, striking the ascending colon and imbedding itself in the internal iliacus, opposite the lower lumbar vertebra. There were four wounds in the colon. The first was a cut, half an inch in length through its muscular coat, an inch and a half below an opening through the bowel, an inch below, another, and half an inch farther down and nearly opposite the ileo-cœcal valve a fourth, all in the central line of the colon. Smoothed their edges and closed them with continued sutures. Sponged the cavity, the hemorrhage being inconsiderable, and washed it out with a warm 1-3000 solution of bi-chloride, wiped it dry, closed the external wound with three deep and several superficial stitches, dusted well with iodoform put on a few long adhesive straps to give support, dressed with absorbent cotton saturated with solution of bi-chloride, one to two thousand, covered with a coating of oakum and applied a broad roller bandage, having left a drainage tube in the lower angle of the abdominal opening. In three-quarters of an hour we removed him from the table with less shock than when the operation was commenced, the primary shock being partly due to the circumstances of the injury.

The anæsthetic caused slight emesis. One and one-half grains of morphine were given to prevent restlessness and pain and to splint the bowels, conceding that opiates prevent functional activity and the removal of effete matter, I think in such cases their advantages out-weigh the objections. Absolute quiet and diet with small quantities of water to allay thirst were directed. Our hospital was the town hall and our patient a would-be robber and murderer, who with a pal had fired six balls into the bed where a citizen and his wife were sleeping, and the millions came to stare and to talk as may be supposed, not very sympathetically. At bed time gave morphine and atropia hypodermically.

June 24—Temperature normal, pulse 98.

Directed an ounce of milk three times a day, dressings kept moist with solution of bi-chloride and morphine as necessary to secure ease and rest.

June 25—Temperature normal, pulse 100, continued, the directions of the previous day. The weather being extremely hot, the hottest for years at this season of the year, the patient refused all covering and demanded frequent sponging with ice water. When his demand was not gratified he would ask for a drink, take a mouthful and spit it over his body and this day after day. Without entering into a daily account of the case the patient did well until the 27th when a sympathetic citizen gave him a glass of beer, which was followed by severe vomiting, relieved by rectal feeding of two ounces of milk every six hours and an occasional dose of chloroform.

On the 28th there being no discharge, removed drainage tube and found the remainder of the opening through the abdominal wall had closed without suppuration, and the indications were that those in the bowel were in the same condition. The tympanites though considerable was never excessive. The temperature never above 99° and the pulse had not risen above 110 per minute. During the night of the 29th the nurse gave him on his own account a bottle of beer. On the 30th the vomiting was persistent and when quieted by chloroform there was frequent regurgitation of bile which was spit out without an effort at vomiting. On the 30th the pulse was up to 120, with temperature normal. Directed large enemata of castile soap suds, turpentine and oil or glycerine every six hours. Small quantities of extract of beef and milk by mouth.

July 1—Small doses of calomel were given and enemata continued, with no results.

July 2—Slight suppuration of wound which had been kept covered with cotton wet with the bi-chloride solution.

July 3—Suppuration marked and walls of the wound rapidly breaking down. Only hope that adhesion may have occurred between the abdominal walls and colon, and an artificial anus. Bowels freely moved.

July 4, all union in wound destroyed and fecal matter discharging freely through it and into the abdominal cavity. Prostration extreme.

July 5 he died at 2 p. m. Post mortem at 6 p. m., showed the sutures in the gut had disappeared, and the wounds all open; all parts of the peritoneum deeply inflamed with slight adhesions uniting the small intestines to each other and to the peritoneal lining of the cavity. The ball was lodged in the internal iliacus, two inches below the crest of the ilium, where it would have been cared for.

Though the wound was kept covered with absorbent cotton, made aseptic, a "city hall," open to the multitude, for a hospital; a city government that desires the death of the patient, and a total absence of pure surroundings, are not the conditions that insure success after grave operations.

We think this case demonstrates, from its rapid and perfect union, from the absence of discharge through the drainage tube, and of fever, dying on the thirteenth day from septic contamination, that with proper surroundings four gun-shot wounds in the intestines are not incompatible with recovery, and warrants the conclusions of the best abdominal surgeons, that in such cases we should know what we have and do what we can, and that *cleanliness is godliness.*" W. L. S.

NEW REMEDY FOR PEDICULI PUBIS.—The treatment of pediculi pubis by the usual blue ointment has so many inconveniences with its disagreeable application and its toxic after-effects, that the use of the well-known anti-parasitic action of salicylic acid has of late been much extolled. The formula is:

℞ Salicylic acid, 2 to 3 parts.
Aromatic vinegar, 25 parts.
Alcohol, (eighty per cent.) 72 parts.

The parts are to be rubbed with a piece of flannel wet with the mixture. One application is usually sufficient. Sulpho-calcine is also excellent in this trouble as well as innocent of any irritation in its application.

INJECTION FOR GONORRHŒA.—A new specific for gonorrhœa is a one per cent. solution of creosote in decoction of hamamelis combined with boric acid. It is claimed that this will destroy the gonococci in two hours.

Summer Heat a Cause of Disease in Infants.

With the heat of summer we have a large increase of patients of the infant class. Is there anything in the high temperature of the atmosphere causative of the summer diseases of children? We think there is, but if we examine our patients and thoroughly sift the evidence, we will be forced to the conclusion that the cases where the cause is due to high temperature alone, are very few. We have not space to consider the effects of heat alone on the child. Suffice it to say, under the influence of heat there is great relaxation of the vascular system and arrest of glandular action due to the depressent effect on the vaso-motors, blood changes take place, the red corpuscles are rapidly destroyed. Blood drawn during an attack of thermic fever shows crenation of the red corpuscles, and that the white corpuscles are not present in proper proportion. These conditions are present in varying degrees, owing to the extent of the exposure and the strength of the child, but when infants are in health having good care, good food, good sanitary surroundings, there is but little danger from the summer heat of this latitude.

But with the weaklings, the bottle-fed, those fed on adult food, with bad sanitary surroundings, bad care, uncleanliness, etc., these furnish the vast majority of the victims of summer heat.

Physicians must be teachers, and they usually perform their duties with credit, but there are a large number of mothers and nurses having the care of babies, who do not know how to fulfill their responsible position, and must be taught the details. It should not be thought beneath the dignity of the physician to patiently instruct those having the care of the little ones, even by practical demonstration, how the babe should be clothed, how to sterilize the milk, how to clean a bottle used by baby, and many other little details which, if neglected, seal the fate of the infant.

Physicians should impress on the mother the danger of overfeeding. Warn them not to neglect the slight catarrhal diarrhœas. These are curable by simply clearing out the intestinal tract and limiting the food. These mild attacks, that are not thought to be serious or even worthy of calling the physicians' attention to are, in the hot weather, the beginning of the more serious intestinal troubles and ought not to be neglected. *Prevention* should be our aim and cannot be attained while those having the care of infants are ignorant. S. G. S.

Dr. F. F. Dickman, in the July number of the *Catalogue*, publishes a paper he read before the Bourbon County (Kans.) Medical Society, in which he makes some statements founded upon original research and the literature on the subject, that are worth careful consideration. The subject of his paper was, "The History of Injuries, and Their Importance in Surgical Diagnosis, Especially its Bearing in the Differential Diagnosis Between the Different Portions of the Body, with a special consideration of the so-called Concussion of the Brain and Spinal Cord, and Compression, Studied from an Anatomical and Physiological Standpoint." In summing the matter up he says:

1. That concussion of the spinal cord never does nor can take place.

2. The moment actual lesion occurs concussion is excluded, and I find that all autopsies on record for supposed concussion have shown actual lesion.

3. All symptoms that are as a rule ascribed to concussion are such as interfere with conduction, or, as in my case, a lesion of the sympathetic system.

Dr. Dickman also refers to a paper read by B. A. Watson, M. D., at Nashville, in which the writer relates a number of experiments on dogs, and pointed to what Dr. D. had already done, and finally says: "Having completed our study on the so-called 'concussions of the spinal cord,' from an anatomical and experimental standpoint, I am thoroughly convinced that neither pathological lesions, nor even functional disturbances, are ever produced in this center, in a healthy cord, without the application of a very great force. It is foolishly absurd to presume that these morbid conditions can have their origin in a slight jar, wrench, or even the application of a moderate concussive force, etc."

LITTLE THINGS.

AMYL-NITRITE an antidote in poisoning by cocaine.

DR. ONYETTE, of Belvue, was a capital visitor last month.

A CASE of successful splenectomy is reported by Trombetta of Messina.

ALBUMINATE of iron is claimed to be the most preferable form of iron for administration.

OUR greatest glory consists not in never falling but in raising every time we fall.—GOLDSMITH.

HEALTH—A monthly magazine published in Boston, is full of good things in its July number.

GLYCERINE and lime water, equal parts, gives prompt relief in the itching of eczema.—SHOEMAKER.

ALL those who pass through the door to success will find it labeled "push."—*Oil City Blizzard.*

SOAP it is claimed is an antidote for carbolic acid. It should be taken in strong doses immediately after the acid has been taken.

DR. A. B. FREEMAN, of Wellington, has removed to Joplin, Mo. The JOURNAL follows him withits best wishes for his success.

MERCURIALS have advanced in price from three to eight cents a pound. A significant fact We are on the verge of a new "calomel fad."—*Times and Register.*

WHEN the registration law in Illinois first went into effect, the percentage of graduates among her physicians was 48; it is now 91. From 3,800 non-graduates, the number has declined to 575.

TO preserve your instruments from rusting, a writer says in the *Lancet Clinic* immerse them in solution of carbonate of potash for a few minutes, and they will not rust for years, not even when exposed to a damp atmosphere.

THE Leavenworth physicians banquetted the society on the 8th inst. The weather being very hot, ice water and lemonade qs. was furnished by our hosts which was appreciated by the thirsty visitors. Our attention was particularly attracted by the absence of spirituous liquors at the feast. This is as it should be.

The Times and Register gives the KANSAS MEDICAL JOURNAL five credits in its June number, viz.: "Aural Sequelæ Eruptive Fevers," by Grant Cullimore. "Crime, Physiology and Pathogenesis," by Dr. R. E. McVey. "Chronic Ovaritis," by Dr. H. F. Hornaday. "Empyema, Course, Treatment, Recovery," by Dr. Cave. "Relation of Formative Matter to Disease," by Dr. Foote.

Dr. J. A. FRENCH in the July number of the *Western Medical and Surgical Reporter*, says that most chronic beer drinkers have red tongues, which is an indication of derangement of the mucus membrane of the stomach. He thinks the alcohol in the beer is not sufficient to account for all the troubles. He claims that the same pathological conditions exist very often in families who use ice excessively in water and milk. He warns against the excessive use of ice, and beer as a rule should not be drunk ice cold. The doctor is correct and we are sure if the ice and beer both were let severely alone as a beverage the laryngologist would have less to do.

THE president and secretary, Drs. Ward and Bidwell, are to be congratulated on the success of the last meeting of the Eastern Kansas District Medical society, held in Leavenworth July 8, 1890. Two sessions were held, one in the afternoon at the Soldier's Home, and the evening session in the city. Drs. McNary and McGill of the home, treated the society royally. Dr. McNary reported three cases of locomotor ataxia, presenting the patients, and two cases of aneurism. The ataxic patients had all been treated by suspension, and benefit followed the treatment in each case. See the doctors report.

THE attention of our readers is called to the advertisement of Messrs. R. A. Robinson & Co., which appears on page ii, of this issue.

This house is one of long standing, and enjoys a reputation of the highest character.

The preparations referred to, we commend especially to the notice of Practitioners.

Local Medical Societies of Kansas.

NAME OF SOCIETY.	PRESIDENT.	SECRETARY.	DATE AND FREQUENCY OF MEETING.
Central Branch Medical Association,	Levi Chase, M. D., Irving.	A. S. Andrews, M. D., Washington.	First Thursday in March, June, Sept. and Dec.
Central Kansas District Medical Society,	Wm. A. Phillips, M. D., Salina.	A. S. M. Anderson, M. D., Salina.	Quarterly.
Eastern Kansas District Medical Society,	M. B. Ward, M. D., Topeka.	W. D. Bidwell, M. D., Leavenworth.	Second Tuesday in Jan., April, July and Oct.
Sixth District Medical Society,	W. A. Leigh, M. D., Stockton.	W. R. Callender, M. D., Stockton.	Second Thursday in Jan., April, July and Oct.
Golden Belt District Medical Society,	P. Daugherty, M. D., Junction City.	F. P. Browne, M. D., Salina.	First Thursday in Jan., April, July and Oct.
Leavenworth (city) Medical Society,	S. Phillips, M. D., City.	W. D. Bidwell, M. D., City.	Monthly.
Lyon County Medical Society,	T. F. Foucannon, M. D.	J. J. Wright, M. D., Emporia.	First Tuesday in every month.
Bourbon County Medical Society,	R. Aikman, M. D.	J. B. Carver M. D., Fort Scott.	First Tuesday in every month.
North Kansas Medical Society,	N. Hayes, M. D., Seneca.	W. Strayer, M. D., Axtell.	Semi-annually.
Northeastern Kansas Medical Society,	Jos. Haigh, M. D., Granada.	L. Reynolds, M. D., Horton.	First Tuesday in March, June, Sept. and Dec.
Potawatomie County Medical Society,	W. F. Richardson, M. D., Havensville.	J. M. Jennings, M. D., Wamego.	First Tuesday in Feb., May, Aug. and Nov.
Republican Valley Medical Society,	J. H. Brierly, M. D., Glasco.	W. F. Sawhill, M. D., Concordia.	First Thursday in Jan., April, July and Oct
South Kansas Medical Society,	C. E. McAdams, M. D., Wichita.	W. K. Harris, M. D., Mulvane.	Semi-annually.
Topeka Academy of Medicine and Surgery,	L. H. Munn, M. D., City.	D. F. Rodgers, M. D., City.	First Tuesday in every month.
Wilson County Medical Society,	A. N. Perkins, M. D., Fredonia.	A. C. Flack, M. D., Fredonia.	Quarterly.

STOCKTON, KAN., July 19, 1890.

Dr. J. E. Minney, Topeka, Kansas:

DEAR DOCTOR:—I have the honor to inform you that the KANSAS MEDICAL JOURNAL has been designated as the official organ of the Sixth District Medical Society. The first meeting was held in this city July 10, 1890, with a good attendance. The organization starts out under very flattering prospects. The next regular meeting will be held at Downs, October 9, 1890.

Yours truly,

W. A. LEIGH, M. D.

We have just received the above letter, with the constitution and by-laws of the Sixth District Medical Society. Dr. W. A. Leigh is the president; Dr. O. W. Hughes, of Jewell city, vice-president; and Dr. W. B. Callender, of Stockton, secretary. The Society has adopted the code of ethics of the American Medical Association. The charter members are Drs. O. W. Hughes of Jewell City, D. O'Brien of Beloit, J. G. Poole of Downs, M. F. Hudson and A J. Harris of Osborn, L. E. Rhodes of Alton, W. B. Callender, L. B. Powell, B. Hill, and E. J. Donnell of Stockton, J Norrish Bogue and H. Wallace of Phillipsburgh, R. H. Truesdale of Kirwin, E. W. Turner of Horton, J. W. Robb of Russell, and G. A. Blair of Plainville. We bespeak for this society a prosperous future, and the JOURNAL will be glad to publish the proceedings and reports which the committee on publication may send us. It matters not whether Kansas is dry or

deluged with o. p. goods, the physicians of the state are organizing for work, and doing work, of which we are proud.

Report of a Case.

Mrs. A. age 26, married six years, has two children, youngest three years old. Menstruated regularly every four weeks, lasting about ten days. Menstruated December 1, and did not have any show from about the 12th until March 1, when a very dark tarry discharge appeared lasting about 2 weeks, and again April 1 and lasting the same time as in March. In May a discharge but of a light color, lasted about the same length of time. June 1 the dark tarry discharge made its appearance again but not so copious as on the previous occasion. On the 15th became alarmed on account of hemorrhage taking place. Had no trouble in controlling the hemorrhage, but it would occur every few days on getting up; the amount was not alarming.

Making an external examination, a tumor could be felt above the median line, occupying more space to the right side, firm, slightly moveable, patient had not noticed the tumor. Examination per vagina, could feel the tumor in front of, and to the right of the uterus, the os uteri well over to the left side. Uterus moved with the tumor, could not pass a sound on account of the resistance offered by the os uteri, so tamponed, removed the tampon next day, passed the sound without any difficulty, found the uterus empty. Dilated with Goodell's dilator 1¼ inches, tamponed again, removed tampon next day about noon, found the tumor had come down more in the pelvic cavity. Dilated again, decided not to tampon but see the patient same evening. Pains came on about two hours after evening visit and continued until about ten o'clock same evening, when there was expelled a placenta about half the size of the hand, had not complained of any pain at any time previous.

W. R. GLADMAN.

The above was evidently a case of miscarriage, and the placenta had been retained.—ED.

DR. GEPHARDT, of Valley Falls, called on us in July. The doctor is a busy man.

THE *Kansas City Medical Index* says: "*Kansas Medical College.*—The faculty of the Kansas Medical College at Topeka began the preliminary course April 7. The regular course will begin September 23, and continue six months. A three years graded course has been adopted, and laboratory work will be required in chemistry, physiology, histology and bacteriology. The faculty is as follows: John E. Minney, M. D., Professor of Ophthalmology, and Dean; M. R. Mitchell, M. D., Professor of Obstetrics and Clinical Midwifery; Geo. M. Beers, A. M., M. D., Professor of the Principles and Practice of Medicine; J. C. McClintock, M. D., Professor of the Principles and Practice of Surgery and Clinical Surgery; W. L. Schenck, M. D., Professor of Pathology and Preventive Medicine; S. G. Stewart, M. D., Professor of Physiology and Microscopy; M. B. Ward, M, D., Professor of Gynæcology; J. C. Schnebley, A. M., M. D., Professor of Chemistry; Theodore W. Peers, Ph. B., M. D., Professor of Diseases of Children; D. F. Rodgers, M. D., Professor of Anatomy; W. S. Lindsay, M. D., Professor of Diseases of the Mind and Nervous System; C. H. Guibor, M. D., Professor of Laryngology and Rhinology; J. W. Donaldson, M. D., Professor of Materia Medica and Therapeutics; Wm. H. Righter, Ph. D., M. D., Professor of Genito-Urinary Diseases; L. J. Lyman, M. D., Professor of Orthopædic Surgery and Lecturer on Fractures and Dislocations; C. C. Green, M. D., Professor of Dermatology; W. A. Williamson, M. D., Professor of Histology and Pathological Anatomy; M. H. Cazier, M. D., Professor of Diseases of the Chest and Physical Diagnosis; S. E. Sheldon, M. D., Professor of Railroad and Military Surgery; W. E. McVey, M. D., Lecturer on Chemistry—a most excellent corps of instructors."

THE University Medical College of Kansas City, Mo., has made some changes as noted in its announcement. Dr. Charles W. Adams is the Dean, and Dr. L. A. Berger Secretary. Dr. H. F. Hereford was elected Emeritus professor of obstetrics. This college has a building of its own at Nos. 911 and 913 East Tenth street, and is doing good work as evidenced by the increased patronage.

WE have received a reprint on "The Recognition of Eye-Strain by the General Practitioner;" by Edward Jackson, M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic.

Amongst other indications of eye-strain he says: "Congestions, irritability, or inflammation of the eyes and their appendages, should always suggest the suspicion of eye-strain. A single attack or manifestation of this kind has no especial significance, but repeated attacks of inflammation, or prolonged congestion or irritability, are exceedingly suggestive of a continuing cause, and the most common of these is the one now under discussion."

MORPHINE FOR SNAKE BITE.—Dr. R. E. McVey reports a case of a child eight months old, bitten on the hand by a three year old rattlesnake. When he saw the child about an hour after it was bitten the arm was swollen to the shoulder and the child was screaming with pain. He immediately gave it from ⅛ to ¼ grains of the acetate of morphine per orum. Within half an hour the child was free from pain, got down on the floor and played (the morphine did not produce drowsiness even.) He saw the child the next day and the swelling had passed away and no further treatment was given, the child making a complete recovery.

SOME of Dr. Cordier's cuts do not show up well, but the subject matter and the manner in which it is presented make up for all deficiencies. The doctor is to be commended for the interest he has taken in abdominal surgery and it is sure to bring its reward.

DR. M. B. WARD on solicitation has prepared the report of an interesting case of laparotomy for publication in this number of the JOURNAL, and it should be published in connection with his report on page 584 (see August number,) but owing to lack of space we are compelled to leave it out of this issue but will put it in the September number.

NINE-HUNDRED AND FIFTY out of every 1,000 men it is claimed use tobacco.

DOCTOR and Mrs. Munn spent July in Colorado, Dr. Bradley, the junior member of the firm, attended to the practice.

OUR friend Dr. Charles W. Adams has been elected Dean of the University Medical College of Kansas City. The honor is merited.

DR. W. D. BIDWELL has just returned from an outing in Colorado with Judge Brewer's family. The trip increased the red corpuscles but did not add materially to his avoirdupois.

SEVERAL papers and reports due in this issue are unavoidably crowded out. They will appear in the next, and we think our readers will say one number of the JOURNAL is worth the subscription price.

DR. THOMAS LINN (*The Times and Register*, June 7,) in a letter from Paris, says that the Parsian surgeons have abandoned tonsilotomy for galvano-puncture, especially in children. The punctures are recommended to be made in at least three places, and "deep enough."

Excerpts from Foreign Literature.

ON SOME NEW ANALGESICS—THEIR APPLICATION IN THE TREATMENT OF NERVOUS DISEASES. BY DUJARDIN-BEAUMETZ, PARIS.

The author speaks of antipyrin, antifebrin, phenacetine and methyl—acetanilid (exalgin). Among these antipyrin stands highest as a nervine. He gives the latter, on an average, in 3 g. doses pro die (45 grains). In regard to disagreeable side-actions, he has most frequently (in women and children) observed an erythema, resembling scarlatina. The second place, regarding efficaciousness, is occupied by exalgin, of which he gives daily doses up to 1, 5 g. (23 grains). Of phenacetine, which takes the third place, he gives 1 to 2 g. pro die (15 to 30 grains). The last in efficaciousness is antifebrin, of which he does not think very much respecting its action as an analgesic; it is given 1 to 1, 5 g. doses (15 to 23 grains) within 24 hours.—*Bullet. Gener. de Therap.* 58, 11.

Topeka Academy of Medicine and Surgery meets first Tuesday in every month.

Cholera.

The frightful note of warning comes to us from across the ocean that the dreaded pestilence is again ravaging western Europe and that its appearance in Spain has been marked with great mortality. The disease broke out in a small town of about 700 inhabitants in Valencia in May, and rapidly spread to other towns. In the epidemic of 1885 the deaths in the province of Valencia alone amounted to 25,612, and those familiar with the sanitary condition of the city of Valencia are not surprised at the fatality which would attend any epidemic. There are hardly any cesspools in the city and the sewers date back to the Moorish occupation. The fall of the sewers is only three feet to a thousand, making it impossible to flush them, and the soil pipes are untrapped. The investigation of Koch and others has demonstrated the cholera germ and marked out the way in which the poison is communicated from one to another, and we see no reason why with proper quarantine it may not be kept out of our country, or, with proper sanitation, even if a case should occur among us, be speedily stamped out. The disease is in a marked degree an eastern one, having its origin there and moving not in the atmosphere, but along the lines of travel from one part of the world to the other. The voyage across the ocean is sufficiently long to cause the poison to develop itself in any passenger before reaching our shores, and the cargoes can very easily be disinfected. Not long since a ship arrived at quarantine with a couple of passengers suffering from diarrhœa. As a precaution the ship was detained, and a portion of the excretions of the patients sent to the Carnegie laboratory. The case was proved to be cholera by distinctly isolating the cholera bacillus and we were saved from what might have been an epidemic. In all times like these most watchful care is required by our sanitary officers at the entrance of every port, and there is no lack of thoroughly skilled men to meet all the necessary requirements.—*N. Y. Medical Times.*

DR. J. C. MCCLINTOCK and family are taking a few weeks recreation in the Centennial State.

CODEINE IN DISEASES OF WOMEN.—Following Lauder-Brunton's recommendation of codeine (*British Medical Journal*, January 9, 1888) for "pains in the bowels and lower part of the abdomen," Freund has made observations as to its usefulness in diseases of women. He finds that while in pain which proceeds from the uterus, codeia gives temporary relief; in exudations of the pelvic peritoneum and connective tissue, and affections of the tubes, it is useless. On the other hand, in ovarian troubles, Freund finds it to be of great value. He gives three times daily one pill containing one-half grain of codeine. This dose promptly relieves all ovarian pain, whether of inflammatory origin or so-called simple neuralgia. The action of codeine is a purely local one. It does not stupefy, above all things, nor does it interfere with the appetite or regular movement of the bowels.—*Medical Chronicle*, May, 1890.

ANOTHER REMEDY FOR SWEATING FEET.—Legoux (*Les Nouveaux Remedes*) recommends the following:

R Perchloride of iron, ʒ iii.;
Glycerin, ʒ i.;
Essence of bergamot, ʒ ii. Mix.
Apply with a pencil or swab.

—*National Druggist*, May, 1890.

A NEW SEWAGE DISINFECTANT.—What promises to be one of the most useful discoveries of the age, particularly in reference to sanitary science, and one affecting every living being, is that made by Mr. Woolheim, of London, Eng. This is a new method of precipitating sewage, and has been well tested in that country. Amminol gas is the disinfecting power used, and it is said that when it is introduced into sewage it very quickly destroys the microbes of putrefaction and of many diseases; the odor of the sewage is carried away, and in less than an hour it is both deodorized and sterilized. Dr. Klein supports the discovery and confirms all the claims made by the discoverer. If the discovery should be thoroughly verified, it will practically revolutionize the sewage question.—*Health.*

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CODEIA, in doses of half a grain or less, three times daily, is a specific for the relief of all pain originating in the ovaries, whatever the condition may be. The result, if temporary, is always grateful, but it often permanently relieves.—*Chicago Medical News.*

Several sittings may be necessary, at intervals of ten days.—*Memphis Medical Monthly.*

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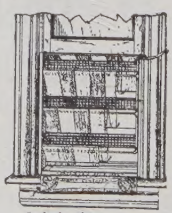

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